CS201

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Vu help with me

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1. ------ is used for input file or for reading from the file.

Tellg()

2. Following is the declaration a ------- array.

 Int arr[2][2][2]

 demensional

3. ! (x < 3) means in c++ that

X is greater than 3

4. Which of the following option is correct to compare the declaration of the function?

---------- (parameter1, parameter2)

{

```
// code to be executed
}
```

Void functionNAME

5. Of stream is used for --------

Output file stream

6. By default, the starting index of an arrar in c++ is ____

0

7. How we declare an array of integer data whose size is 20 with array name "count".

Int count [20];

8. Which of the following is a reserve word for data types in c/c++?

Int

9. C was developed with the help of ----------- language

BCPL and B

10. An object of ----- class can be created for saving the current position of any opened file before reading from the file.

Streampos

11. C ++ is a ----- language.

High level

12. In while loop, the loop counter is initialized at -----

Before entering the loop

13. What is the output of thw following code if the 3rd case is true

Switch (var)

{Case 'a';

Cout<<"apple"<<endl;

Mango

14. ----------- character is used to indicate the end of the string.

Null

15. Which of the following is used to perform bit-wise exclusive OR operation?

|

16. If x = 11, and x % = 3, then value of x will be----

2

17. A variable of character data type occupies ---- bytes in memory.

1

18. Null character is represented by ---- in c ++?

\0

19. In computer system there are mainly ---- type of softwares.

2

20. There is pointer variable named ptr of type float. Which type of variable address can be store by ptr?

Float

21. A character is stored in the memory in -----

Byte

22. X is an integer variable; what does x++ means,

Add 1 in x value

23. When we call a function, its control--------

Transfers to its definition

24. '\0' takes ---- space in the memory.

1 byte

25. -------- will be used for enclosing function statements into a block?

{ }

26. How can we declare an array of characters whose size is 12 with array name "country"?

Char country [12];

27. Following is the declaration of a 2d array, how many columns are declared for this array.

Int arr[3][2];

2

28. If we assign 2.06721 to an integer variable x, what will be the output if we print x using cout<< statement?

2

29. We can access a global variable ----

From anywhere in the program

30. We use ---- to include all those functions which are located in different files.

Linker

31. A character is stored in the memory in ----

Byte

32. Which is not true regarding structure?

We can declare array of structure

33. Mr. ahmad sleeps thirty hours every day. This sentence is ----

Grammatically correct but illogical

34. ----- will explain the function of a program.

Comments

35. Char **argv can be read as ----

Pointer to pointer to char

36. What will be output of the following code?

String name [4] = {"ali", "bilal","omer", Ayesha"};

Cout<< name [0];

Ali

37. The data type before a function name represents its,

Return type

37. The expression ((a+b) = = 10) || ((x+y) = = 20) is true only if?
Either ((a+b) = =) OR ((x + y) = =20) is true

38. = operator is used for ----

Assigning values to variables

39. What is the use of ios::trunc mode?

To truncate an existing file to zero

40. X is an integer variable; what does x ++ means,

Add 1 in x value

41. Structures use ---- allocation.

Heap

42. What will be the size of the following character array?

Char name[] = "adeel";

6

43. A ---- is an array of characters that can store number of character specified.

String

44. ----- statement is used to terminate the processing of a particular case and exit from switch structure.

Break

45. If y = 20 and z = y ++, then the valye of z will be------

2146. If Int a = 17; int b = 3; double c

= a/b; what will be value of

variable c?

5

47. What will be the output of the following code?

String grade [3] = {"a', "b", "c"};

Grade[2] = "f";

Cout<< grade[2];

F

48. Declaration of two-dimensional array of integers having 3 rows and 5 columns is following?

Int arr [3][5];

49. A = a + 1; can be written as ----

A+ = 1;

50. A record is a group of related
Fields

51. What will be the result of arithmetic expression 6+48/4*3?

42

52. ---------- construct is used to execute a set of instructions when a
    condition is true and other set when it is false?

If\else

53. If an array has 50 elements, what is allowable range of subscripts?

0 – 49

54. If int a = 50; then the value of a/= 3; will be?
16

55. Which of the following option is/are correct about array?

Only one type of elements can store in an array

56. Whenever some number is added in an array name, it will jump as many --- as the added number?

Rows

57. --------- returns true if c is a digit or a letter and false otherwise. Int

isalnum(int c)

58. which of the following is the default mode of the opening using of ofstream class?

Ios::trunc

59. In which language the compiler of c language is written?

C

60. While loop executes at least?

One time

61. String are accessed by variable of type----

Char

62. Which of the following is the correct operator to compare the values of two variables?

= =

63. Not operator is a -----

Single input operator

64. Pointer points to a particular-----

Memory address

65. A function is a block of statements that can be defined once and used--- in the program.

As many times as user wants

66. -------- function is used to find the number of characters in a string?

Strlen()

67. ! = operator is used to check whether the operand on the left-hand side is------to the operand on the right-hand-side.

Not equal

68. A while loop may execute ----- or more times.

0

69. How we declare an array of integer data whose size is 20 with array name "count".

Int count[20];

70. A variable declared within a code block becomes ---- variable for that block.

Local

71. If a file is opened with ios::out mode, then -------

We can write in this file

72. A function's prototype is written --- the function call.

Before

73. ---- Loop is mostly used to perform repetition of a tasks for a known number of times.

For

74. In shifting operations if zero is inserted at the lest most bit, the negative number will become a ---- number.

Positive

75. It is the job of ---- to transfer the executable code from hard disk to main memory.

Loader

76. RAID stands for------

Redundant array of inexpensive devices

77. Array indexes start from ----

0

78. In call by reference, ----- of a variable is passed to the called function.

Address

79. How many times the following do-while loop will execute?
Int k = 10;

Do

{

Cout << "statements" << endle; ?

6

80. The name of a location in memory is called ----

Variable

81. ----- function is used to find the number of character in a string.

Strlen()

82. Which statement is used to close a file?

Myfile.close();

83. ------- allow us to have a memory location and use it as int or char interchangeably.

None of the given

84. While handling files, one can have ---- options

All of the given

85. ------- function is used to determine the next position to write a character while writing into a file.

Tellp()

86. Which is the correct syntax to define a structure named 'student'?

Struct student{

//varaibles

};

87. < and > both are ---- operators.

Logical

Identify the logical error in the following if condition

88. If ((i<5) & & (i>15)) ?

Condition is always false

89. Not operator is a ----

Single input operator

90. The use of *sign in first and second statements is called --- and ---- of pointer.

Int *ptr = &x; Cout<<*ptr;

?

Referencing, dereferencing

91. C is widely known as development language of ---- operating system.

Linux

92. If x is declare as an integer, what will be result of the given expression?

X = 2 + 3 * 5 % 2 + 3 / 2 ??

4

93. What will be the correct syntax of declaration of the following statements?

"ptr is a pointer to const int" ??

Const int *ptr

94. After evaluating the expression

95. X = 10 + 3 * 4 / 2 – 1, the value of x will be?

15

96. We can read, write and manipulate the same file using ----

Fstream.h

97. Return type of a function that does not return any value must be ----

Void

98. Pointers store the ----

Memory address

99. ----- operator uses the sign ^.

Exclusive OR

100. To get the value stored at a memory address, we use the ----

Dereferencing operator

101. Telling a computer what to do is called ----

Programming

102. Compiler translates high level language program into ---- language code.

Machine

103. Each array declaration must provide the information about all these things except----

The location of the first element to be stored

104. Eof is used to check for the --- of file when a file is being resd.

End

105. The result of 4%3 will be?

1

106. When the logical operator AND (&&) combine two expression exp1 and exp2 then the result will be true only?

When both exp1 and exp2 are true

107. 'multi[3][3]' element can also be accessed by ------

((multi + 3) + 3)

108. What is output of following code?

Int data [10] = {10,20,30,40,50,60,70,80,90,100};

Int *xptr =&data [4];

Int *xptr =&data [6];

Cout<<xptr + yptr ++; ??

120

109. Which of the following is not the subcategory of the system software?

None of the above

110. We get 12 | 8 = ------ where "|" is (bit-wise OR) ?

12

111. ------ is a substitute of multiple if statement.

If..elseif statement

112. Find out the logical error in following lines of code.

If (x = 10)

Cout << "x is 10"; ?

Assignment operator should not be used for comparison

113. Which is not true regarding structure?
c) we can't declare pointers to structure

114. -------- are used to compiler the code.

Compiler

115. #include <iostream>

#include <cstring>

Using namespace std;

Int main ()

{

Char str1[10] = "hello";

Char str2[10] = "world"; ?

10

116. A --- structure specifies that an action is to be repeated while some condition remains true.

Repetition

117. In which language the compiler of c language is written?

C

118. Characters string are terminated by -----

\0

119. A function is a block of statements that can be defined once and used -- in the program.

As many times as user wants

120. -------- is used for output during the process of writing to the file.

Seekp()

In case of two-dimnstional array, if you add some number in a twodimensional name, it will jump to the next----

Row

121. In while loop the condition is checked ---- the execution of loop.

Before

122. Array indexes start from ----

0

123. Pointers store the ----

Memory address

124. Which step is not not performed during a proper program design?

Write details about the performance of program

125, We can say that a pointer is a variable that holds the --- address.

Memory

126. When accessing a structure memory, the identifier to the left of the dot operator is the name of ----

Structure variable

127. From the following; which one is the range of random number generator rand() ?

O – 32767

128. To read command-line arguments, the main () function itself must be given ---- arguments.

129. Which operator has the highest precedence?

(*, –, /, +) ?

* and / both hane the same highest precedence

130. Suppose we have int y[10];

To access the 4th element of the array we write----

Y[3];

131.   What will be the value of the variable output in the given piece of code?

Double output = 0;

Output = (2 +2) * 4 + / (4 – 2);

17

132. What is the output of the following statement? int i = 2.5; do { cout i * 2; } while (i > 3 && i < 10); error

133. Searching is easier when an array is already sorted

True

134. If an array has 100 elements, what is allowable range of subscripts?

While developing a program; should we think about the user interface? //handouts main

Yes

A character is stored in the memory in _____

String

These functions seekg() and seekp() requires an argument of type _____to let them how many bytes to move forward or backward.

Int

dereferencing operator is represented by _____

*

_____ transfers the executable code from main memory to hard disk.

Loader

When the logical operator OR (||) combine two expressions exp1 and exp2 then the result will be false only, //bitwise "or" applies here….

When both exp1 and exp2 are false

suppose we have int y[10]; To access the 4th element of the array we write_____ none of given

we have opened a file stream myfile for reading (getting), myfile.tellg () gives us the current get position of the file pointer. It returns a whole number of type_____

int

ofstream is used for_____

Output file stream

A structure is a collection of _____under a single name.

Variables

In C/C++ the string constant is enclosed …………… corrected r red one In

curly braces

The size of int data type is

 4 bytes

In Flow chart process is represented by

 Rectangle

If the break statement is missed in switch statement then,// a break statement with no label always completes abruptly, the reason being a break with no label. If no switch, while, do, or for statement in the immediately enclosing method, constructor or initializer encloses the break statement, a compile-time error occurs?

This may cause a logical error

When we are using const keyword with a variable x then initializing it at the time of declaration is, ?

Optional

Which of the following is the correct way to assign an integer value 5 to element of a matrix say 'm' at second row and third column?   m[2][3] = 5 ;

How many total elements must be in two-dimensional array of 3 rows and 2 columns?

6

Which of the following is the correct statement for the following declaration?
*ptr is a pointer to const int

What will be the correct syntax to assign an array named arr of 5 elements to a pointer ptr?

*ptr = arr[5] ;

C is a/an _____ language object

oriented

The variables having a name, type and size are just like empty boxes.

True

What's wrong with this for loop? for

(int k = 2, k <=12, k++)

the commas should be semicolons

Most efficient method of dealing with structure variables is to define the structure globally

True

There are mainly -------------------- types of software.//

 Two

When a pointer is incremented, it actually jumps the number of memory addresses ?
According to data type

setw is a parameterized manipulator.

True

if (a>b && a>c) then the condition will be true only if

Both a>b and a>c are true

In while loop the loop counter must be initialized,

Before entering the loop

_____ of a variable means the locations within a program from where it can be accessed.

Reference

Switch support_____ data.

Integer

Character

Float

Both integer and character

A function is a block of statements that can be defined once and used _____ in the program.

As many times as user wants

_____statement is used to terminate the processing of a particular case and exit from switch structure.

 break

The most suitable data type for number 325.25 is _____. float

X is an integer variable; what does X++ means,

 Add 1 in X value

The operators ++ and –– are used to increment or decrement the value of a variable by _____

 1

Which of the following loops checks the test condition at the end of the loop?

 Do-While

The operator to free the allocated memory using new operator is _____.

delete

suppose we have int y[10]; To access the 4th element of the array we write_____ y[3];

From the following; which one is the range of Random number generator function rand()?

0 – 32767

From following; which one is the correct syntax of an array initialize: Array size is 10 and it is of double data type to value 0? double arr[10] = {0.0};

The string in the array is terminated by a_____ null

In C/C++; by default arguments are passed by_____to a function.

Value

char name [] = "Hello World" ; In the above statement, a memory of_____characters will be allocated

12

_____Keyword is used to return some value from a function.
return

Which of the function call is call by value for the following function prototype? float add(int); add(x);

The increment of a pointer depends on its_____.

data type

The ASCHI code of null character is_____

000

Pointers are a special type of _____in which a memory address is stored variables

Transpose of a matrix means that when we interchange rows and columns_____

the first row becomes the first column

Pointers store the _____ value of a variable

Which of the following function call is "call by reference" for the following function prototype? int add (int *); add(&x);

The name of the array is a constant pointer which contains the memory address of the _____ of the array.

first element

array name always contains the memory address of the _____ of the array first element

At the _____, we try to break up the problem into functional units design phase

Syntax of a union is identical to _____.

structure

A union is a user-defined data type that contains only _____ from its list of members at a time.

one object

Which of the given file handling modes are similar in their functionality ?

ios::trunc, ios::ate

Which one of the given option is not a mode for reading/writing the data from a file?

Trunk

In C/C++, the header file used for string manipulation is _____. string.h

A 2D array multi[5][10] can be accessed using the array name as **multi ,
this technique is called _____.

Double dereferencing

C language was evolved from _____ language(s).

B and BCPL

The _____ statement forces the immediate next iteration of the loop.

Continue

_____ are very good tools for code reuse.

Functions

When an argument is passed by reference, _____ the function accesses

the argument's original value in the calling program.

_____ executes all the lines before error and stops at the line which
contains the error.

Intrepreter

Analysis is the -------------- step in designing a program.

First

Which of the following is the correct function call, having array named student of 10 elements as a parameter?

addRecord(student);

When an array element is passed to a function, it is passed by _____.

Reference

What is the correct syntax to declare an array of size 10 of int data type? int name[10] ;

If we want to copy an array, both arrays need to be of same_____. Data type and size

Which of the following is the correct syntax to print multiple values or variables in a single command using cout?

cout << "H" << x << "\n";

Which one of the statements given below is equivalent to x %= 5?

x = x % 5

The condition in loop should be a(n) _____.

Boolean Expression

Which structure is represented by following flow chart ?

if structure

Stream which sends data to the program is called _____.

Input stream

Syntax of a union is identical to _____ .

Structure

When accessing a structure member, the identifier to the left of the dot operator is the name of _____. a structure variable

The parameter passed to isdigit() function is _____.

a character variable

TWAIN stands for _____ .

Technology Without An Interesting Name

_____ translates high level language program into machine language code.

Compiler

From the option given below, what will be the correct output of the code?

for (int a = 1; a <= 3; a++) cout<<a*3-1<<"

";

2 5 8

If the return type of a function is void then it means that it will _____.

return any type of data return no data

The functions that have already been defined as a part of the language are called _____.

built-in functions

Given that doubleArray is an array of 7 integers. Which of the below is the correct statement to access the 5th element of the array?

doubleArray[4]

The symbol which is used to represent a process in a flow chart is _____.

Rectangle

When an array is passed to a function, by default it will be passed by_____.

Reference

What is the range of Random number generator function rand()?

0 – 32767

The first character of a variable name must be an alphabet or
_____.

Underscore

In _____, the first pointer stores the address of the some other pointer,
which contains the address of any variable.

single dereference

Initialization of variable at the time of definition is --------------practice.

Good Programming

Which looping process checks the test condition at the end of the loop?

do-while

You can use a _____ statement to transfer control elsewhere out of the
nested structure.

Goto

Which of the following array is the most suitable for storing a matrix structure?

Single-dimensional array

The microsoft word document(.doc) is a kind of _____ .

Random Access File

A union is a user-defined data type that contains only _____from its list of members at a time.

one object

In C/C++, _____ are the doors through which data can enter and come out of a program.

Streams

Which one of the given option is not a mode for reading/writing the data from a file?

Trunk

C++ views each file as a sequential stream of _____.

Bytes

In 2D array, the technique used to access the array elements is called _____

Double dereferencing

From the options given below, identify the correct option which is used for calling the function float square (int &); square (num);

Identify the correct option which is used for calling the function float area (int).

area(num) ;

Which kind of error occurs in the code below to access the variable num in the main function? int num =10; int main(){ int x ;

x = num ;
}
No error

A program statement that invokes a function is called _____. function call

What will be the output of the following code segment?

main(){

int a = 10 ; int b =0; int

*x = &a; b = (*x)+3 ;

cout << a << —, ‖ << b ;

}

10,13

When the logical operator AND (&&) combines two expressions exp1 and exp2 then the result will be true only _____

When both exp1 and exp2 are true

For which array, the size of the array should be one more than the number of elements in an array?

char

What is the range of Random number generator function rand()?

0 – 32767

To assigned a value to a character type variable, _____ are used around the value.

single qoutes ''

In C/C++, the #include is called_____.

Preprocessor Directive

The number 544.53 must be stored in _____ data type.

Float

Use of the _____ statement violates the rules of structured programming.

Goto

In Flow Chart, flow of control is represented by _____.

Arrow

What will be the correct syntax for initialization of pointer ptr of type int with variable x? int *ptr = &x ;

Syntax of a union is identical to _____ .

structure

A union is a user-defined data type that contains only _____from its list of members at a time.

one object

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```
for (int a = 1; a <= 3; a++)  cout<<a*3-1<<"
";
```

2 5 8

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Reference

The first character of a variable name must be an alphabet or
_____.

Underscore

In _____, the first pointer stores the address of the some other pointer,
which contains the address of any variable.

single dereference

Initialization of variable at the time of definition is --------------practice.

Good Programming

Which looping process checks the test condition at the end of the loop?

do-while

You can use a _____ statement to transfer control elsewhere out of the
nested structure.

Goto

An object of _____ class can be created for saving the current position of
any opened file before reading from the file

Stream

The value returned by the eof() function is of _____ type.

Character

If a file is not properly closed in a program then what is the status of the program?

The program will terminate normally

The parameter passed to isdigit() function is _____.

a character variable

In C/C++, the header file used for string manipulation is _____. string.h

Arrays are best data structures _____. for

relatively permanent collections of data

Each array declaration must provide the information about all these things except

_____.

Number of elements of the array

The First step for developing a program is _____.

Linking

Analysis

_____ transfers the executable code from hard disk to main memory.

Loader

_____ operator is used to pass the address of a variable to the called function.

&

In call by reference, _____ of a variable is passed to the called function.

Address

_____ of a function is also known as signature of a function.

Declaration

Preprocessor program performs its function before _____ phase takes place.

Compiling

Which of the following is the correct function call, having array named student of 10 elements as a parameter?

addRecord(student[10]);

The remainder (%) operator is a _____operator.

Arithmetic

Which of the following array is the most suitable for storing a matrix structure?

Two-dimensional array

*.doc is _____ by type.

► Random Access File

Which of the following is NOT a preprocessor directive?

► #define

The return type of operator function must always be void.

► False

Question No: 4 (Marks: 1) – Please choose one What

does (*this) represents?

► A value of the data member

The statement cin.get (); is used to,

► Read a character from keyboard

When we do dynamic memory allocation in the constructor of a class, then it is necessary to provide a destructor.

► True

Overloaded new operator function takes parameter of type size_t and returns

► void pointer

The second parameter of operator functions for << and >> are objects of the class for which we are overloading these operators.

► True

C++ is a case-sensitive language

► True

To include code from the library in the program, such as iostream, a directive would be called up using this command.

► #include <iostream.h>

A template function must have only generic data types.

► True

Template class can not have static variables.

► False

What will be the correct syntax to assign an array named arr of 5
elements to a pointer ptr?

► *ptr = arr[5] ;

What will be the correct syntax to access the value of fourth element of an
array using pointer ptr?

► Both 1and 3

If most significant bit of un-signed number is 1 then it represents a positive
number.

► True

If there is a symbol (& sign) used with the variable name followed by data
type then it

refers to _____ and if & is being used with variable name then it refers to _____.

► Reference variable, address of variable

We can also do conditional compilation with preprocessor directives.

► True

The default value of a parameter can be provided inside the _____

► function definition

Classes defined inside other classes are called _____ classe

► nested

What purpose do classes serve?

► All of the given options

Every class contains _____.

► Constructor

new operator is used to allocate memory from the free store during

► None of the given options

When an object of a class is defined inside another class then,

► Destructor of inner object will be called first

It is possible to define a class within another class.

► True

New and Delete are also used with _____ and data types as well.

► Class, Objects

With New keyword, data types and class members are initialized with meaningful values instead of garbage.

► True

C language is developed by

► Dennis Ritchie

Which of the following choice is not an example of an int data type?

► -4.0

In flow chart, the symbol used for decision making is,

► Diamond

Switch statement deals with,

► Integer and character data

Default case in switch statement is,

► Optional

*.doc is _____ by type.

► Sequential File

Member function tellg() returns the current location of the _____ pointer.

► tellptr()

Dealing with structures and functions passing by reference is the most economical method

► True

In C/C++ all character strings are terminated with,

► Null character

Word processor is http://vustudents.ning.com

► Application software

Which of the following can not be a variable name?

10area

Which looping process is best, when the number of iterations is known?

► while

By default an array of characters is passed by value to a function

► False

Which of the following operator is used to access the address of a variable?

► & operator

The name of an array represents address of first location of array element.

► False

Compiler is a

► Application Software

If Num is an integer variable then Num++ means,

► Add 1 with Num

For one byte there are _____ combinations of values that can be stored in computer.

► 2^8

In C/C++ language the header file which is used to perform useful task and manipulation of character data is

► ctype.h

Default case in switch statement is,

► Optional

When break statement is encountered in switch statement, it

► Exits from switch statement

What will be the result of arithmetic expression 6+27/3*3?

► 33

What is the correct syntax to declare an array of size 10 of int data type?

► int name[10] ;

How many dimensions does n-dimensional array has?

► n dimensions

What will be the correct syntax to access the value of fourth element of an array using pointer ptr?

► ptr[3]

Which of the following values C++ use to represent true and false?

► 1 and 0

Declaring structures does not mean that memory is allocated.

► True

For which array, the size of the array should be one more than the number of elements in an array?

► char

If a variable is passed by value to a function and the function makes some changes to that variable then it

► does not affect the original variable

In C/C++ the #include is called,

► Preprocessor Directive

Loops are ----------------------- Structure.

► Repetition

the sizeof operator is used to determine the size of _____.

data type

Structures use _____ allocation.

Stack

Which header file must be included to use the functions tolower() and toupper()? ctype.h

In Analysis, we try to have a_____

Precise problem statement

Pointers store the _____ memory address

_____ Returns true if c is a digit and false otherwise.

int isdigit(int c)

eof is used to check for the _____ of file when a file is being read.

End

The statement cout << yptr will show the _____the yptr points to.

memory address

Which of the following is true about streams?

A& B

While handling files, one can have _____ options

All of the given

If an array has 50 elements, what is allowable range of subscripts?

0 – 49

A structure is a collection of _____under a single name.

variables

Ifstream is used for_____

Input file stream

The ASCHI code of null character is_____

000

dereferencing operator is represented by _____

*

Whenever some number is added in an array name, it will jump as many _____as the added number.

rows

To access the data members of structure, _____ is used.

Dot operator

Which of the following is true about streams? A. It is a sequence of bytes B. It is an ordered sequence C. All bytes can

go through the stream simultaneously D. Bytes that enters first into the stream will go out at last

A and B

We use _____ to open a file or stream for extraction in

char **argv can be read as_____.

pointer to pointer to char

From following; which one is the correct syntax of an array initialize: Array size is 10 and it is of double data type to value 0? double arr[10] = {0.0};

Pointers work by pointing to a particular_____ data

type

_____function give the position of the next character to be read from that file.

tellg()

aFile. seekg (-10L, ios:cur) backward

direction

An object of _____ class can be created for saving the current position of any opened file before reading from the file.

Stream

Structures are syntactically defined with the word_____.

struct

_____ allow us to have a memory location and use it as int or char interchangeably union

Question # 9 of 10 (Start time: 12:25:41 PM) Total Marks: 1

A hierarchy of classes which are used to deal with console and disk files are called _____.

IO classes

_____function is used to determine the next position to write a character while writing into a file.

tellp()

For binary member operators, operands on the _____ drives (calls) the operation.

Left

We cannot increment _____.

references

We can _____ pointer.

all of the given

We can _____ references.

None of the given

What will be the correct syntax for the following function call?

add(x);
An instance of a class is called _____. object

The _____ is called automatically when an object destroys destructor

The destructor is used to _____.

deallocate memory

_____ data isn't accessible by non-member functions or outside classes.

private

Member functions of the class _____ main program.

are accessible from

Overloading means :

Using the same name to perform multiple tasks or different tasks depending on the situation.

The main advantage of function overloading is _____.

The program becomes more readable

You cannot overload the _____ operator.

? :
In C++, a variable can be declared anywhere in the program this will increase
_____.

efficiency

Memory allocated from heap or free store _____.

cannot be returned back unless freed explicitly using free and delete
operators

We cannot use _____ pointer for storing and reading data from it.

'NULL

The dynamic memory allocation uses _____ whereas static memory
allocation uses _____.

heap , stack

What will be the output of the given code? #include

#define MAX(A, B) ((A) > (B) ? (A) : (B)) void main() {

int i, x, y; x = 23; y =

45; i = MAX(x++,

y++);

// Side-effect: // larger value incremented twice cout

<< "x = " << x << " y = " << y << '\n';

}

x=24 y=47

NULL has been defined in _____ header file.

Stdlib.h

Symbolic constant PI can be defined as:

#define PI 3.14

The friend function of a class can have access _____.

to the private data members

C++ was developed by _____.

Bejarne Stroustrup

Once the _____ are created, they exist for the life time of the program.

static variables

Encapsulation means _____.

that the data of a class can be accessed from outside

An address is a _____, while a pointer is a _____. constant,
variable

The syntax of declaration of a function that returns the reference to an
integer is _____. int & myfunc();

Which one of the following is mandatory preprocessor directive for c++?
#include

The members of a class declared with the keyword struct are _____ by
default.

Public

getche() is a _____ function and defined in _____ header file.

built-in function , conio.h

_____ operators are the ones that require two operands on both sides of
the operator.

Binary

_____ will return the number of bytes reserved for a variable or data type.

sizeof operator

_____ are not available in C language.

Library functions
The members of a class declared without any keyword are _____ by default. private

For console input and output we use _____. conio.h

header file

The name of the destructor is the same as that of a class proceeding with a _____.

~ sign

A reference cannot be NULL it has to point a data type.

True

A pointer is _____.

a variable for storing address

Constructor is a special function, called whenever we _____. instantiate

an object of a class

Symbolic constant PI can be defined as:

#define PI 3.14

Object code is machine code but it is not _____ and _____.

relocatable, executable

The default visibility for the data members of the class is private

accessible outside the class

The _____ is called automatically when an object destroys.

destructor

Constructor is special type of function :

which has no return type

_____ variables are those that are defined outside of main.

Global

Within the statement obj1=obj2; obj1 will call the assignment operator function and obj2 will be passed as an argument to function.

True

When the compiler overload the assignment (=) operator by default then
Compiler does member wise assignment.

It is possible to return an object from function using this pointer.
True

Overloaded assignment operator must be
Member function of class

Let suppose
int a, b, c, d, e; a = b = c
= d = e = 42;

This can be interpreted by the compiler as a =
(b = (c = (d = (e = 42))));

In statement a+b+c, at first b+c
is executed first

Suppose int i = 10; then what is the output of cout<<oct<<i;
12

ostream is a _____ operator.

Standalone

_____ must be included to use stream manipulation in your code.

Iomanip

_____ operators are the ones that require only one operator to work.

Unary

The endl and flush are _____.

Manipulators

When operator function is implemented as member function then return type of function _____.

Can be any data type

When a variable is defined as static in a class then _____.

Only one copy is created for all objects of this class

Automatic variables are created on _____.

Stack

cout << i << " "; cout

<< d <<" "; cout << f;

Above statements can be written within statement of one line as: cout <<

i <<" "<< d <<" "<< f;

dec, hex, oct are all _____.

Non-parameterized manipulators

What will be the output of following statement?

cout<<setfill('0')<<setw(7)<<128;

0000128

Which of the following syntax is best used to delete an array of 5 objects named 'string' allocated using new operator.

delete []string;

If we have a program that writes the output data(numbers) to the disc, and if we collect the output data and write it on the disc in one write operation instead of writing the numbers one by one.

In the above situation the area where we will gather the number is called

Buffer

The first parameter of operator function for << operator _____.

Must be passed by reference

The second parameter of operator function for >> operator must always be passed

By reference

The only operator that the compiler overloads for user define data type by default is------

Assignment (=) operator

Consider the following code, the printed value will be converted into:

int n=10; cout

<<oct<<n;

Base 8

_____ variables are defined in the main.

Local

ostream class is _____ and not under our control.

built-in

The memory allocation in C++ is carried out with the help of _____.

new operator

If B is designated as friend of A, B can access A's non-public members.

A can access non-public members of B

If the request of new operator is not fulfilled due to insufficient memory in the heap _____.

the operator returns 0

We should not use such variable names that are starting with _____ because in C++, there are lots of internal constants and symbolic names that start with it. double underscore

The friend keyword provides access _____. in

one direction only

The malloc function takes _____ argument(s).

one

The constructor contains _____.

no return type

What will be the output of the following c++ code?

#include<iostream.h>

#define max 100 main()

{

#ifdef max

Cout<<"Hellow;

}

Error

Once we have defined a symbolic constant value using #define, that value _____ during program execution cannot

be changed

The memory allocation functions return a chunk of memory with a pointer of type _____.

ptr

A class can be declared as a _____ of other class. member

To avoid dangling reference, don't return _____. the reference of a local variable from the function

Constructor is itself a _____ of C++ and _____.

function, can be overloaded

The parameter passed to isdigit() function is _____ variable.

Integer

char **argv can be read as _____.

pointer to pointer to char

To read command-line arguments, the main() function itself must be given _____ arguments.

2

How many bytes an integer type pointer intPtr will jump in memory if the statement below is executed?

intPtr += 2;

8

The increment of a pointer depends on its _____. data

type

The statement cout << yptr will show the _____ the yptr points to.

memory address

_____ is used as a dereferencing operator.

*

Transpose of a matrix means that when we interchange rows and columns _____.

the first row becomes the first column

Individual characters in a string stored in an array can be accessed directly using array _____.

subscript

We can define a matrix as _____ array.

Multi dimensional

A _____ is an array of characters that can store number of character specified.

String

Given a two dimensional array of integers, what would be the correct way of assigning the value 6 to the element at third row and fourth column?

array[2][3] = 6;

_____ of a variable means the locations within a program from where it can be accessed.

Visibility

Which of the following function call is "call by reference" for the following function prototype? int add (int *); add(&x);

Which of the following function call is "call by reference" for the following function prototype? float add (float *); add(&x);

Which of the function call is call by value for the following function prototype? float add(float); add(x);

Which of the function call is "call by value" for the following function prototype? float add(int); add(x);

Return type of a function that does not return any value must be _____. void

_____ will be used for enclosing function statements into a block.

{}

What is the output of the following code if the 2nd case is true switch

(var) {

case 'a': cout<<"apple"<<endl; case

'b':cout<<"banana"<<endl; case

'm':cout<<"mango"<<endl; default:

cout<<"any fruit"<<endl;

}

Banana mango any fruit

When the break statement is encountered in a loop's body, it transfers the control _____ from the current loop.

Outside

What is the output of the following code if the 3rd case is true

switch (var) {
case 'a':cout<<"apple"<<endl; case

'b':cout<<"banana"<<endl; case

'm':cout<<"mango"<<endl; default:

cout<<"any fruit"<<endl;

}

Mango any fruit

What is the output of the following code, if the first case is true

```
switch (var) { case 'a':cout<<"apple"<<endl; case
'b':cout<<"banana"<<endl; case 'm':cout<<"mango"<<endl; default:
cout<<"any fruit"<<endl;

}
```

Apple banana mango any fruit

What will be the output of following code segment?

```
for (int i = 2; i<10; i++) { if ( i == 5) continue; cout << i << ","

;

}
```

2,3,4,6,7,8,9

_____ statement is used to terminate the processing of a particular case and exit from switch structure.

break

What will be the result of the expression j = i++; if initially j = 0 and i = 5? 5

What will be the result of the expression k = ++m; if initially k = 0 and m = 5

What will be the result of the expression k = ++m; if initially k = 0 and m = 5?

6

How many times the following do-while loop will execute?

int k = 10; do { cout << "Statements" << endl; k -= 2; } while(k>0); 6

Which of the following loops checks the test condition at the end of the loop?

Do-While

The operators ++ and -- are used to increment or decrement the value of a variable by _____.

1

How many times the following loop will execute?

int j = 3; while(j > 0) { cout << "Statements" << endl; j -= 2; }

2

A _____ structure specifies that an action is to be repeated while some condition remains true.

Control

!(x > 3) means in C++ that x

is less than or equal to 3

When the logical operator && combines two expressions then the result will be true only when the both expressions are _____.

true

< and > both are _____ operators.

Relational

What will be the value of variable "input" if the initial value of input is 67?

if(input >= 50) input

= input + 1; if(input

<= 75) input = input

+ 2; else input =

input – 1;

70

!(x < 3) means in C++ that x is

greater than or equal to 3

!= operator is used to check whether the operand on the left-hand-side is _____ to the operand on the right-hand-side.

Not equal

When the if statement consists more than one statement then enclosing these statement in curly braces is,

Must

The most suitable data type for number 325.25 is _____.

Float

What will be the result of arithmetic expression 6+48/4*3?

42

Which of the following will be the most appropriate data type to store the value 63.547?

Float

In the given expression which operator will be evaluated first? 10 + (6 / 2) – 2 * 3?

/

What will be the value of the variable output in the given piece of code?

double output = 0;

output = (2 + 2) * 4 + 2 / (4 – 2);

17

It is the job of _____ to transfer the executable code from hard disk to main memory.

Loader

In computer systems there are mainly _____ type of softwares. 2

_____ will explain the function of a program.

Comments

if (a>b && a>c) then the condition will be true only if

Both a>b and a>c are true

A variable of character data type occupies _____ byte(s) in memory.

1

We must include the header file _____ to convert the value of one type into another type using built-in functions.

string.h

A function is a block of statements that can be defined once and used _____ in the program.

As many times as user wants

Select the correct way to assign the address of first element of array to pointer?

int *ptr = &data;

Consider the following code segment. What will be the output of following code?

```
int addValue (int *a){

int b = (*a) + 2; return

b;

}

main() { int

x = 6;

cout<<addValue(&x)<<","; cout<<x;

}
```

6,8,6

Here the code is given below. You have to identify the problem in the code.

while(i < 10) && (i > 24)) the test

condition is always false

The correct syntax of do-while loop is _____.

do {statements;} while (condition);

Matrix is defined as _____.

Multi-dimensional array

In programming, comments are used to explain the functioning of the _____.

Program

Operating System is a type of a/an _____.

system software

From the options given, you need to choose the option which is true for the given code.

```
for (int i = 1; i>0; i++) {

/*loop code*/

}
```

the test condition is always true

Which of the following values are used in C/C++ to represent true and false?

1 and 0

'While' loop may execute _____ or more times.

zero

Body of any function is enclosed within _____.

{}

What will be the correct syntax for initialization of a pointer ptr with string "programming"?

char *ptr = "programming";

Which one of the given option is not a mode for reading/writing the data from a file?

Get

Which of the following operators is used to access the value of variable pointed by a pointer?

* operator

In case of single dereferencing, the value of the _____ is the address of the _____.

pointer, variable

The remainder (%) operator is a _____ operator.

Arithmetic

What will be the output of following code?

int x = 10; cout<<"x="<<x; x=10

The purpose of using cout<< is to _____.

Display information on the screen

Which of the following data types will be assumed if no data type is specified with constant?

short

When an array element is passed to a function, it is passed by _____.

reference

While programming, it is good to provide an easy to understand and easy to use interface; this programming skill is called _____.

usability

_____ executes all the lines before error and stops at the line which contains the error.

Intrepreter

Which of the following is the correct syntax to access the value of first element of an array using pointer ptr?

*ptr[0]

C is a/an _____ language.

function oriented

_____ of a function is also known as signature of a function.

Declaration

_____ are very good tools for code reuse.

functions

If any break statement is missed in switch statement then _____.

this may cause a logical error

A 2D array multi[5][10] can be accessed using the array name as **multi, this technique is called _____.

Double dereferencing

In C/C++, the default command line arguments passed to the main function are _____.

int argc, char **argv

A record is a group of related _____.

Fields

The microsoft word document (.doc) is a kind of _____.

Random Access File

NULL character is used to indicate the _____ of string.

End

How many dimensions does n-dimensional array has?

n dimensions

Which of the following function call is "call by reference" for the following function prototype?

func(&num);

The loop which is most suitable to be used when the number of iterations is known is called _____.

for

In C/C++, the string constant is enclosed in _____.

double quotes " "

In order to get the right most digit of a number, we divide this number by 10 and take _____.

Its remainder

What is the correct syntax to declare an array of size 10 of int data type? int name[10];

How many bytes of memory are occupied by array 'str'? char str[] = "programming";

11

Suppose that an integer type pointer contains a memory address 0x22f230. What will be the new memory address if we increment this pointer by one?

0x22f234

Which of the following if missing would result in infinite recursion in case of recursive function?

Recursive call

Whenever we use a library function or a predefined object or macro, we need to use a _____.

header file

Switch statement deals with _____ type of data.

Both Integer and Character

Both compiler and _____ are used to translate program into machine language code.

Interpreter

TWAIN stands for _____.

Technology Without An Interesting Name

The parameter passed to isdigit() function is _____.

a character variable

C++ views each file as a sequential stream of _____.

Bytes

Structure is a collection of _____ under a single name. only

variables

The default mode for writing into a file using ofstream object is _____.

out

The memory address of the first element of an array is called _____.

base address

We want to access array in random order which of the following approach is better? Pointer

The _____ structure is a multiple-selection construct which makes the code more efficient and easy to read and understand.

switch

Which of the following is not a reserved word in C/C++?

Sum

To access rand(), which library is required to be included in program?

stdlib.h

What is the highest legal index for the following array?

int arr[4]

3

Word processor is a type of a/an _____.

application software

Identify the correct option which is used for calling the function float area (int).

area(int num);

The _____ statement allows us to select from multiple choices based on a set of fixed values for a given expression.

switch

C is widely known as development language of _____ operating system.

Unix

To convert the value of one type into another type using built-in functions, we include _____ header file.

stdlib.h

The keyword _____ is used to get some value back from a function.

return

The function seekg() takes _____ parameter(s).

2

The function write() takes _____ as parameter(s).

String and no. of bytes to be written

When the logical operator AND (&&) combines two expressions exp1 and exp2 then the result will be true only _____.

When both exp1 and exp2 are true

Syntax of a union is identical to _____.

structure

In Flow Chart, flow of control is represented by _____.

Arrow

There can be _____ 'default' statement(s) in any switch structure. 2

The condition in loop should be a(n) _____.

Arithmetic Expression

How many nested loops would be required to manipulate n-dimensional array?

2n

Which of the following is not an example of int data type?

-4

We should use _____ for clarity and to force the order of evaluation in an expression. parenthesis ()

Which of the following is the starting index of an array in C++?

0

The statement x += y can be interpreted as _____.

Adding the value of the x to the value of the y and storing the result in x

Given a 2D array of integers, what would be the correct way of assigning the value 5 to the element at second row and third column?

m[1][2] = 5;

Array is a data structure that stores _____.

Variables

A program statement that invokes a function is called _____. function call

The compiler of C language is written in _____ language.

C

Which function is used to locate the first occurance of a character in any string? strlen()

To access the data members of structure, _____ is used.

Dot operator

In the following nested For Loop, which loop will run most number of times?

for(int i = 0; i < 5; i++)

{

for(int k = 0; k < 5; k++)

{

. . . . .

}

}

Depends upon the statements in the inner loop's body

Structure use _____ allocation.

Heap

_____ function give the position of the next character to be read from that file. tellp()

What will be the size of the following character array? char

name[] = "Adeel";

5

Function prototype is written,

Before call of that function

Which one of the following languages has been used to write the compiler of "C" language?

C

A hierarchy of classes which are used to deal with console and disk files are called _____.

Stream classes

_____ stops execution at the line that contains error(s) in the code.

Interpreter

C++ is a _____ language.

High level

How many elements are stored in the following?

int matrix [4][5];

20

_____ is a substitute of multiple if statement.

if...elseif statement
 if

int sum = 54;

Then the value of the following statement is sum =

 sum – 3;

51

What will be the correct syntax for declaration of the following statement?

"ptr is a constant pointer to an integer" const

int *myptr;

_____ operator is used to pass the address of a variable in call by reference method.

&

_____ data type can operate on modulus operator. int

Whenever some number is added in an array name, it will jump as many _____ as the added number.

rows

Suppose that an integer type pointer contains a memory address 0x22f220. What will be the new memory address if we increment this pointer by one?

0x22f224

_____ is the pointer which determines the position in a file from where the next read operation occurs.

put

what is the correct centex to declare an array of 15 elements of type float?

float array [14]

suppose we have a file with name "mylife.txt" . what will be the correct Syntax of file opening for input?

my file ("myfile.txt". ios::in)

which of the following will be the most appropriate data type to store the value 63.5 47?

Float

------- will explain the function of a program

Comments

these functions Seekg() and seekp() requires an argument of type-------
to let them how many bites to move forward or backward

Int

all elements of an array must be of --------- data type

Same

what will be the result of arithmetic expression 6 + 48 / 4 * 3?
42

----------- allow us to have a memory location and use it as int or char
interchangeably none of the given

accessing a structure member the identifier to the left of the dot operator is
the name of---------- structural variable

< and > both are---------- operators

Arithmetic

what will be the output of the following code segment?

For (int = 2; i<10; i ++){

If (i = = 5)

Continue;

cout<< i << ".";

}

2,3,4,5,6,7,8,9

----------- returns true if she is a digit or a letter and false otherwise

Int isalnum (int c)

if a ----- find an error, it stop translating without generating any E executable code

Compiler

the ASCII code of null character is----------

000

if X = 9; then the expressions x%=2; will calculate the value of x as ------

1

the original value means unchanged in --------

Call by Value

which of the following is used to create an account stream?

Ofstream

how many times the following loop will execute?

Int j = 3;

While (j > 0)

{

Cout << " statements" << endl;

J – = 2;

}
2

Use of word processor for writing the code of a program is not good because --------

It has less feature for writing code of a program

how many bytes and integer type pointer intptr will jump in memory if the statement below is executed?

Intptr + = 2;

8

avoid loop may execute ------ or more Times

0

raid stands for ------

redundant array of inexpensive dices

in a file is opened with iOS:: out mode, then------------ a new file is created

first step in designing a program is

Analysis

what will be the result of the expression

J = i ++
If initially j = 0 and i = 5?

5

suppose we have int y [10];

to access the 4th element of the array be write-------

Y [3];

A ------------ structure specify that an action is to be repeated while some condition remains true

Control

the most suitable data type for number 325.25 is------ float

Which one of the following should be placed immediately either before or after the noun?

Modifiers of Nouns

Titles typically include both …………………… a

number and a description

For what purposes colons are used?

All of the above

The name of the array is a constant pointer which contains the memory address of the _____of the array.

first element

What will be the correct syntax for the following function call? float add (int &); add(x);

In C/C++; by default arguments are passed by _____ to a function.

 Value

< , <= , > , >= are called _____ operators.

Relational

char name [ ] = "Hello World" ; In the above statement, a memory of _____ characters will be allocated

12

While developing a program; should we think about the reusability?

Yes

C is widely known as development language of _____ operating system.

Unix

Which of the following function call is "call by reference" for the following function prototype? int add (int *); add(&x);

If a function has not been declared before its definition, It is a

None of these

While loop executes at least----

Zero time

A _____is a precise sequence of steps to solve a particular problem.

Program

In while loop the loop counter must be initialized,

Before entering the loop

```
int counter = 0 ;
while(counter < 15) cout
<< counter << " ";
counter++;
```

Infinite loop

Why we use "cin"?

To read data from keyboard

Loops are _____ Structure

Repetition

CS201- Azii khan

Question No: 1   (Marks: 1)   - Please choose one

What is the output of the following statement?
int i = 2.5; do { cout i * 2; } while (i > 3 && i < 10);

(a) 510

(b) 5

(c) 48

(d) error

Question No: 2   (Marks: 1)   - Please choose one
What does !(7) evaluate to in decimal where ! is a NOT operator?

(a) 7

(b) 8

(c) 9

(d) 10

Question No: 3   (Marks: 1)   - Please choose one

The condition in while loop may contain logical expression but not relational expression. (a) True

(b) False

Question No: 4   (Marks: 1)   - Please choose one

Searching is easier when an array is already sorted

(a) True

(b) False

Question No: 5   (Marks: 1)   - Please choose one

If an array has 100 elements, what is allowable range of subscripts?

(a) **0 - 99**
(b) **1 - 99**
(c) **0 - 100**
(d) **1 - 100**

Question No: 6   (Marks: 1)   - Please choose one

What will be the value of 'a' and 'b' after executing the following statements?
a = **3;**
b = **a++;**

(a)   3, 4
(b)   4, 4
(c)   3, 3
(d)   **4, 3**

Question No: 7   (Marks: 1)   - Please choose one

What will be the correct syntax to initialize all elements of two-dimensional array to value 0?

(a) **int arr[2][3] = {0,0} ;**
(b) **int arr[2][3] = {{0},{0}} ;**
(c) **int arr[2][3] = {0},{0} ;**
(d) **int arr[2][3] = {0} ;**

Question No: 8   (Marks: 1)   - Please choose one

Which of the following function returns the size of a string variable?

(a) **strlength()**
(b) **stringlen()**

(c) <mark>strlen()</mark>

(d) strLength()

Question No: 9   (Marks: 1)   - Please choose one

What will be the range of numbers generated by function rand () % 9?

(a) **0 to 9**

(b) **1 to 9**

(c) **0 to 8**

(d) **1 to 8**

Question No: 11   (Marks: 1)   - Please choose one

Computer can understand only machine language code.

(c) <mark>**True**</mark>

(d) <mark>**False**</mark>

Question No: 13   (Marks: 1)   - Please choose one

What does 5 ^ 6 , evaluate to in decimal where '^' is Exclusive OR operator?

(a) **True**

(b) <mark>**False**</mark>

Detail:-
It mean

5	=	0101
6	=	0110
5 ^ 6 =		0011

If both input is same then the output is 0 and if different then output is 1

Question No: 14 **(Marks: 1)** **- Please choose one**

If the file is not properly closed in the program, the program _____.

- (a) **Terminate normally**
- (b) **Indicate Runtime error**
- (c) **Indicate Compile time error**
- (d) **Crashes**

Question No: 15 **(Marks: 1)** **- Please choose one**

Which of the following header file include string conversion functions?

- (a) **string.h**
- (b) **stdlib.h**
- (c) **ctype.h**
- (d) **sconvert.h**

Question No: 16 **(Marks: 1)** **- Please choose one**

In Program commenting the code liberally is
Solution:
It need to be self-contained and understandable. Comments should be placed liberally. The comments should explain the logic, not the mechanics. Try to avoid fancy programming.

Question No: 17 **(Marks: 1)**

Which header file must be included while handling files?   **Solution:-** **<fstream.h>**

Question No: 18 **(Marks: 1)**

What is meant by C++ statement: const int *ptr = &x;   **Solution:-**

ptr is a pointer to data of type const int type. And to assign the address of x to pointer ptr

Question No: 19   (Marks: 2)

What is a truth Table?

Solution:-

We know the concept of truth table. The truth tables are very important. These are still a tool available for analyzing logical expressions. We will read logic design in future, which is actually to do with chips and gate. We find it difficult to evaluate a complicated logical expression. Sometimes the logic becomes extremely complicated so that even writing it as a simple syntax statement in any language.

Question No: 20   (Marks: 3)

(1) An array day is declared as: int day[] = {1, 2, 3, 4, 5, 6, 7};

How many elements does array 'day' has?

Solution:-

7 elements

(2) If the declaration is changed as: int day[7] = {1, 2, 3, 4, 5, 6, 7};   How many elements does array 'day' has?

Solution:-

7 elements

Question No: 21   (Marks: 5)

What are similarities and differences between Structures and Unions?

In structures, we have different data members and all of these have their own memory space. In union, the memory location is same

while the first data member is one name for that memory location. However, the 2nd data member is another name for the same location and so on. Consider the above union (i.e. intOrChar) that contains an integer and a character as data members. What will be the size of this union? The answer is the very simple. The union will be allocated the memory equal to that of the largest size data member. If the int occupies four bytes on our system and char occupies one byte, the union intOrChar will occupy four bytes

Question No: 22   (Marks: 10)

Write a **void function( );** that takes integer numbers from the user and then displays the sum of odd and even numbers entered by the user. Your program

should terminate if user enters a negative number

 Solution:-

```
#include<iostr
eam.h>
#include<coni
o.h> void
function(void);

main()

{

  function();

  getche();

}

void function(void)
```

```cpp
{
int
n[5
];
    for(int i=0; i<=5; i++)

        {

            cout <<"Enter Element = ";

            cin >>n[i];

        }

    cout <<"\nODD Inputs are = \n";

    for(int i=0; i<=5; i++)

        {

            if(n[i]%2==0)

            {

                cout <<n[i]<<endl;

            }

        }

    cout <<"\nEVEN Inputs are = \n";

    for(int i=0; i<=5; i++)

        {

            if(n[i]%2==1)

            {

                cout <<n[i]<<endl;
```

```
        }

    }

}
```

MIDTERM EXAMINATION
Spring 2009
CS201- Introduction to Programming

Question No: 1   (Marks: 1) - Please choose one

The function of cin is
  - (a) **To display message**
  - (b) **To read data from keyboard**
  - (c) **To display output on the screen**
  - (d) **To send data to printer**

Question No: 2   (Marks: 1) - Please choose one

In C/C++ language the header file which is used to perform useful task and manipulation of character data is
  - (a) **cplext.h**
  - (b) **ctype.h**
  - (c) **stdio.h**
  - (d) **delay.h**

Question No: 3   (Marks: 1) - Please choose one

How many parameter(s) function getline() takes?
  - (a) **0**
  - (b) **1**

(c) **2**

(d) **3**

Question No: 4   (Marks: 1) - Please choose one

Word processor is
    (a) **Operating system**
    (b) **Application software**
    (c) **Device driver**
    (d) **Utility software**

Question No: 5   (Marks: 1) - Please choose one

For which values of the integer _value will the following code becomes an infinite loop?

```
int number=1;
while (true) {
      cout <<
number;     if
(number == 3) break;
    number +=  integer_value; }
```

    (a) **any number other than 1 or 2**
    (b) **only 0**
    (c) **only 1**
    (d) **only 2**

Question No: 6   (Marks: 1) - Please choose one

Each pass through a loop is called a/an

(a) **enumeration**

<mark>(b) **Iteration**</mark>

(c) **culmination**

(d) **pass through**

Question No: 7   (Marks: 1) - Please choose one

A continue statement causes execution to skip to

    (a) **the return 0; statement**

    (b) **the first statement after the loop**

    (c) **the statements following the continue statement**

    (d) **the next iteration of the loop**

Question No: 8   (Marks: 1) - Please choose one

What is the correct syntax to declare an array of size 10 of int data type?

    (a) **int [10] name ;**

    (b) **name[10] int ;**

    (c) <mark>**int name[10] ;**</mark>

    (d) **int name[] ;**

Question No: 9   (Marks: 1) - Please choose one

Consider the following code segment. What will the following code segment display? int main(){ int age[10] = {0};
cout << age ;
}

    (a) **Values of all elements of array**

    (b) **Value of first element of array**

    (c) **Starting address of array**

(d) **Address of last array element**

Question No: 10   (Marks: 1) - Please choose one

What will be the correct syntax to initialize all elements of two-dimensional array to value 0?

(a) **int arr[2][3] = {0,0} ;**
(b) **int arr[2][3] = {{0},{0}} ;**
(c) **int arr[2][3] = {0},{0} ;**
(d) **int arr[2][3] = {0} ;**

Question No: 11   (Marks: 1) - Please choose one

How many bytes will the pointer intPtr of type int move in the following statement?

intPtr += 3 ;

(a) **3 bytes**
(b) **6 bytes**
(c) **12 bytes**
(d) **24 bytes**

Question No: 12   (Marks: 1) - Please choose one

If there are $2^{(n+1)}$ elements in an array then what would be the number of iterations required to search a number using binary search algorithm?

(a) **n elements**
(b) **n+1) elements**

(c) **2(n+1) elements**

(d) **$2^{(n+1)}$ elements**

Question No: 13   (Marks: 1) - Please choose one

Which of the following operator is used to access the value of variable pointed to by a pointer?

(a) *** operator**
(b) **-> operator**
(c) **&& operator**
(d) **& operator**

Question No: 14   (Marks: 1) - Please choose one

The _____ statement interrupts the flow of control.

(a) **switch**
(b) **continue**
(c) **goto**
(d) **break**

Question No: 15   (Marks: 1) - Please choose one

Analysis is the -------------- step in designing a program

(a) **Last**
(b) **Middle**
(c) **Post Design**
(d) **First**

Question No: 16   (Marks: 1) - Please choose one

Paying attention to detail in designing a program is _____

- (a) **Time consuming**
- (b) **Redundant**
- (c) <mark>**Necessary**</mark>
- (d) **Somewhat Good**

Question No: 17   (Marks: 1)

Which programming tool is helpful in tracing the logical errors?

Debugger tool is helpful in tracing the logical errors.

Question No: 18   (Marks: 1)

Give the syntax of opening file 'myFile.txt' with 'app' mode using ofstream variable 'out'.

ofstream outfile; outfile.open
("**myFile.txt** "); // Open the file

Question No: 19   (Marks: 2)

What is the difference between switch statement and if statement.

In switch statement only one variable can be tested on various condition but using if we can tested multi variables in single statement.

Question No: 20   (Marks: 3)

Identify the errors in the following code segment and give the reason of errors.

ma
in()
{
int
x =
10

```
const int *ptr = &x ;
*ptr = 5 ;
}

main()
{  int x = 10;
const int
*ptr = &x ;

cout <<ptr;

}
```

Question No: 21   (Marks: 5)

If int array[10]; is an integer array then write the statements which will store values at
Fifth and Ninth location of this array,

```
cout <<"Enter fifth
postion "; cin >>
array[4]; cout
<<"Enter Ninth
postion "; cin >>
array[8];
```

Question No: 22   (Marks: 10)

Write a function BatsmanAvg which calculate the average of a player (Batsman), Call this function in main program (Function). Take the input of Total Runs made and Total number of matches played from the user in main function

Q1

When the if statement consists more than one statement then enclosing these statement in curly braces is,

- (a) Not required
- (b) Good programming
- (c) Relevant
- (d) **Must**

Q2

The while loop becomes infinite,

- (a) When the condition is always false
- (b) . When the condition is less than zero
- (c) **When the condition is always true**
- (d) When the condition contains a logical operator

Q3

Which of the following function(s) is/are included in **stdlib.h** header file?

- (a) double atof(const char *nptr)
- (b) int atoi(const char *nptr)
- (c) char *strcpy (char *s1, const char *s2)
- (d) **1 and 2 only**

Q4

If we want to store a string "abc" in an array str then the size of this array must be at least,

    (a) **2**
    (b) 3
    (c) 4
    (d) 5

Q5

No executable code will be generated if error is found during translation of the program using interpreter.

    (a) **True**
    (b) False

Q6

Word processor is

    (a) Operating system
    (b) **Application software**
    (c) Device driver
    (d) Utility software

Q7

Which of the following is the correct syntax to print multiple values or variables in a single command using cout?

    (a) cout << "Hello" + x + "\n";
    (b) **cout << "H" << x << "\n";**
    (c) cout << "H", x, "\n";
    (d) cout << ("H" & x & "\n");

Q8

Which of the following is correct way to initialize a variable x of int type with value 10?

- (a) int x ; x = 10 ;
- (b) **int x = 10 ;**
- (c) int x, x = 10;
- (d) x = 10 ;

Q9

If there is more than one statement in the block of a for loop, which of the following must be placed at the beginning and the ending of the loop block? (a) parentheses ( )

- (b) **braces { }**
- (c) brackets [ ]
- (d) arrows < >

Q10

Name of an array is a constant pointer.

- (a) **True**
- (b) False

Q11

How many bytes will the pointer **intPtr** of type **int** move in the following statement? **intPtr += 3 ;**

- (a) 3 bytes
- (b) 6 bytes
- (c) 12 bytes
- (d) 24 bytes

Q12

What will be the value of 'a' and 'b' after executing the following statements? a = 3; b = a++;

(a) **3, 4**
(b) 4, 4
(c) 3, 3
(d) 4, 3

Q13

Loader loads the executable code from hard disk to main memory. **(a) True**

(b) False

Q14

Which of the following is used with bit manipulation?

(a) Signed integer
(b) Un-signed integer
(c) **Signed double**
(d) Un-signed double

Q15

Which of the follwoing values C++ use to represent true and false? **(a) 1 and 0**

(b) 1 and -1
(c) 11 and 00
(d) Any numerical value

Q16

The argument of the isdigit() function is _____

(a) **a character,**

(b) a C–string,

(c) a C++ string class variable (d) None of the given options.

Q17

Which data type should be used to store the value 50.7 ?

Float

Q18

Why should goto statement be avoided in C/C++?

When structured programming was started, it was urged not to use the goto statement. Though goto is there in C language but we will not use it in our programs. It will adopt the structured approach. All of our programs will consist of sequences, decisions and loop. Because loop provide best platform to manipulate the data.

Q19

What operator do you use to assign a pointer the address of another variable or constant? Marks: 2

& sige
i.e.
int
i;
int
*
ptr
i;
ptri = &i;

Q20

If there are 2^n elements in an array then what would be the number of iterations required to search a number using binary search and linear search? Marks: 3

Q21

Convert the following switch statement into if statements. Marks: 5

```
switch
(operator) {
case '+':

        result = op1 + op2;


break;
case '-':


        result = op1 - op2;


break;
case
'x':
case
'*':

        result = op1 * op2;


break;
case '/':

        result = operand1 / operand2;
```

```cpp
        break;
default:

cout << "Unknown operator" ;

}


if(operator==' +')
            {
        result = op1 + op2;
            }
else
if(operator=
=' -')
            {
        result = op1 - op2;
            }
else
if (operator==' *')
            {
        result = op1 * op2;
            }

else if
(operator=
=' /')
            {
        result = op1 / op2;
            }
else
{
cout << "Unknown operator" ;

}
```

Q22

Write a recursive function that takes character array and starting subscript as arguments. In each recursive call, the function should display the string from subscript to the end of string. The starting subscript in first call should be 0. In each successive call, the subscript should increse by one and function should print the array from subscript to the end of string. The function should stop processing and return when null character encounters.   Suppose the char string passed to the function is,

"SampleString", then the function will print output as follows,

Sampl
eStrin
g
ample
String
mpleS
tring
pleStri
ng so
on....

Marks: 10

Question No: 1   (Marks: 1) - Please choose one

A precise sequence of steps to solve a problem is called

Statement

Program
Utility

Routine

Question No: 2   (Marks: 1) - Please choose one

The Compiler of C language is written in

Java Language

UNIX

FORTRON Language

C Language

Question No: 3   (Marks: 1) - Please choose one

Initialization of variable at the time of definition is,

Must

Necessary

Good Programming

None of the given options

Question No: 4   (Marks: 1) - Please choose one

In if structure the block of statements is executed only,

When the condition is false

When it contain arithmetic operators

When it contain logical operators

When the condition is true

Question No: 5   (Marks: 1) - Please choose one

Which of the following function(s) is/are included in stdlib.h header file?
double atof(const char *nptr)   int atoi(const char *nptr)
char *strcpy (char *s1, const char *s2)
1 and 2 only

Question No: 6   (Marks: 1) - Please choose one

Dealing with structures and functions passing by reference is the most economical method   True
False

Question No: 7   (Marks: 1) - Please choose one

Pointer is a variable which store,

Data

<mark>Memory Address</mark>

Data Type

Values

Question No: 8   (Marks: 1) - Please choose one

Preprocessor program perform its function before _____ phase takes place.

Editing

Linking

<mark>Compiling</mark>

Loading

Question No: 9   (Marks: 1) - Please choose one

Which of the following can not be a variable name?

area
_area
<mark>10area</mark>
area2

Question No: 10   (Marks: 1) - Please choose one

Which looping process is best, when the number of iterations is known?

for
while
do-
while

Question No: 11   (Marks: 1) - Please choose one

Which character is inserted at the end of string to indicate the end of string?

new
line
 tab
 null

          carriage return

Question No: 12   (Marks: 1) - Please choose one

How many bytes are occupied by declaring following array of characters?
 char str[] = "programming";

          10

          11

          12

          13

Question No: 13   (Marks: 1) - Please choose one

 Which of the following header file defines the rand() function?

iostream.h
 conio.h
stdlib.h
stdio.h

Question No: 14   (Marks: 1) - Please choose one

Commenting the code _____

      Makes a program easy to understand for others.

      Make programs heavy, i.e. more space is needed for executable.   Makes it difficult to compile   All of the given options.

Question No: 15   (Marks: 1) - Please choose one

What's wrong with this for loop?

for (int k = 2, k <=12, k++)

      the increment should always be **++k**

      the variable must always be the letter i when using a for loop

      there should be a semicolon at the end of the statement

      the commas should be semicolons

Question No: 16   (Marks: 1) - Please choose one

For which array, the size of the array should be one more than the number of elements in an array?   int   double float   char

Question No: 17   (Marks: 1)

To Which category of the software "Compiler and Interpreter" belongs?

Question No: 18   (Marks: 1)

What is the result of the expression x = 2 + 3 * 4 – 4 / 2

Question No: 19   (Marks: 2)

Write a declaration statement for an array of 10 elements of type float. Include an initialization statement of the first four elements to 1.0, 2.0, 3.0 and 4.0.

Question No: 20   (Marks: 3)

Write down the output of the following code?

```
int array[7], sum = 0;
   for(int i=0;i<7;i++)
   {
   array[i] = i;
   sum+= array[i];
}
   cout<< " Sum = " <<sum;
```

ANS
Sum = 21

What will be the output of the following segment of C++ code?

```
int A[5] = {1 , 2,
3, 4}; int i;
for (i=0; i<5; i++)
 {
 A[i] = 2*A[i];
 cout << A[i] << " ";
 }
```

ANS
2 4 6 8 0

Question No: 22   (Marks: 10)

Write a C++ program that will determine if a departmental store customer has exceeded the credit limit on a charge account. Program should input the following facts in five variables

  1. **Account number**
  2. **Balance at the beginning of month (Beginning balance)**

3. **total of all items charged by customer this month (charges)**
4. **total of all credits (credits)**
5. **allowed credit limit**

Calculate the new balance

New balance = Beginning balance + charges – credits

Determine if new balance exceeds the allowed credit limit. For those customers whose credit limit is exceeded. The program should display the message "Credit Limit exceeded."

Q1

In C/C++ the string constant is enclosed

- (a) In curly braces
- (b) In small braces
- (c) **In single quotes**
- (d) In double quotes

Q2

In flow chart, the symbol used for decision making is,

- a) Rectangle
- b) Circle
- c) Arrow
- d) **Diamond**

Q3

The data type before a function name represents its,

- (a) **Return Type**
- (b) Function data
- (c) Function arguments
- (d) Function name

Q4

The operator used to take the address of a variable is,

(a) &&

(b) ++

(c) –

(d) **&**

Q5

The header file which is used for input and output is

(a) maths.h

(b) string.h

(c) **iostream.h**

(d) ctype.h

Q6

When we are using command line argument(s), the default argument in C/C++ is/are _____.

a) argc

b) argd

c) argv

d) **argc and argv**

Q7

In C++, Integer calculation occurs in _____ bytes.

a) 1 byte

b) **2 bytes**

c) 4 bytes

d) 8 bytes

Q8

In the declaration of two dimensional array,

(a) **First index represents row and second represents column**

(b) First index represents column and second represents row

(c) Both indexes represent rows

(d)   Both indexes represent column Q9

The address operator (&) can be used with,

a) Statement
b) Expression
c) **Variable**
d) Constant

Q10

_____ translates high level language program into machine language code (a) Debugger

(b) Editor
(c) **Compiler**
(d) Linker

Q11

Which of the following data type(s) can operate on modulus operator '%'? **a) float, int**

b) float, double
c) int
d) char

Q12

What will be the result of the expression z = x % y, if x = 19 and y = 4?

a) **3**
b) 4
c) 15
d) 19

Q13

Which character is inserted at the end of string to indicate the end of string?

a) new line
b) tab
c) **null**
d) carriage return

Q14

What will be the value of i and j in the following code segment? int i, j ;
int x[5] = {2, 3, 4, 8, 9} ; int *ptr =&x[2]; i = (*ptr)++ ;

j = *ptr++ ;

    a) **i = 5, j = 5**
    b) i = 5, j = 8
    c) i = 4, j = 8
    d) i = 5, j = 9

Q15

Syntax of union is identical to _____

    a) **Structure**
    b) **Class**
    c) **Function**
    d) None of the given options

Q16

Let suppose

```
Union intorDouble{
Int ival;
Double charvar;
};

main(){
intorDouble
VAZ; int size
```

```
;    size    =
sizeof(VAZ);
}
```

What will be the value of variable "size", if int occupies 4 bytes and
  double occupies 8 bytes?

  a) 2
  b) 4
  c) 8
  d) 12

Q17

 To Which category of the software "Compiler and Interpreter" belongs?   (1)
System software
Q18
Give the general syntax of definition of structure.   (1)

ANS
struct
Name
{
 // body of the structure
};

Q19
Write the General syntax for the definition of a user defined function.   (2)

ANS
return data type Function Name (**parameter list with data type**)
{
  // definition body

}

Q20

What will be the output of following code segment?
(3) int x[5] = {2, 4, 5, 7, 1} ; int *ptr =&x[2];

cout << (*ptr)++ <<" ";

cout << *ptr++ ;

ANS
5 6
Q21

Detect and correct compile time error(s) in the following code.

Hints: The following code pass a value to a function by Reference and print the value before and after pass.   (5)

ANS
```
int  test (int &x)

{

*x = *x + 200;
return x;

}


main()

{

  int x = 100;


  cout <<" x =  " <<x;


  test (*x);  ////invalid type of argument uniary
```

```
cout<<endl<< " x = " <<x;


   getch();
return 0;

}
```


ANS

**The following function pass a reference to the function but in the
main body the call mechanism is wrong. The * sign is not used with
it .**
X = 100 after the function completion x = 300;
Q22

Write a C/C++ program which calculates the aggregate of
a student. The aggregate can be calculated by the formula:
(10)

 Aggregate = (Matrix_marks*2 + Fsc_marks*4) / 24

If the aggregate of a student is less than 150 then the program should
display message

"You can not be admitted to VU" otherwise display the message
"Congratulation! You admitted in VU "

ANS

#include<iostream.h>
#include<conio.h>

```
main()
{    int m,f;
float a;
m=254;    f=340;
a = ((m*2) +
(f*4))/24;    if(a
< 150)
  {
    cout <<"You can not be admitted to VU";

}
el
s
e
  {
    cout <<"Congratulation! You admitted in VU ";
  }
  //Aggregate = (Matrix_marks*2 + Fsc_marks*4) / 24

  getche();
}
```

Q1

What is function of **cout** ?

    (a)   To send data to printer
    (b)   To read data from keyboard
    (c)   To display message
    (d)   **To display output on the screen** Q2

In Flow chart process is represented by

(a) **Rectangle**
(b) Arrow symbol
(c) Oval
(d) Circle

Q3

&& is ------------------- operator.

(a) An arithmetic
(b) **Logical**
(c) Relational
(d) Unary Q4

An over Flow condition occurs when we try to assign a value to a variable which is,

(a) **Less than its maximum size**
(b) Greater than its maximum size
(c) With in its range
(d) Equal to its size

Q5

For dereferencing an array element using pointer, we use the operator **(a) &**

(b) *
(c) /
(d) +

Q6

In the declaration of two dimensional array,

(a) **First index represents row and second represents column**
(b) First index represents column and second represents row
(c) Both indexes represent rows
(d) Both indexes represent column

Q7

Which of the following data type(s) can operate on modulus operator '%'? **(a) float, int**

(b) float, double
(c) int
(d) char

Q8

Which of the following is the correct way to declare a variable x of integer type? (a) x int ;

(b) integer x ;
(c) **int x;**
(d) x integer

Q9

Which of the following can not be a variable name?

(a) area
(b) _area
(c) **10area**
(d) area2

Q10

Which of the function call is **call by value** for the following function prototype?

float area (int);

(a) area(&num) ;
(b) **area(num) ;**
(c) area(int num) ;
(d) area(*num) ;

Q11

Recursive functions are used when there is a repetitive pattern.

(a) **True**
(b) False

Q12

What will be the range of numbers generated by function rand () % 9?

(a) 0 to 9
(b) 1 to 9
(c) **0 to 8**
(d) 1 to 8

Q13

What will be the correct syntax to declare two-dimensional array of float data type?

(a) float arr{2}{2} ;
(b) **float arr[2][2] ;**
(c) float arr[2,2] ;
(d) float[2][2] arr ;

Q14

When a function finishes its execution then,

(a) The control return to its Prototype
(b) The control returns to its definition
(c) **Control returns to statement following function call**
(d) The compiler stop execution of whole program

Q15

Consider the following statements to initialize a two-dimensional array.
i. int arr[2][3] = {4, 8, 9, 2, 1, 6} ; ii. int arr[3][2] = {4, 8, 9, 2, 1, 6} ; iii. int arr[][2] = {{4,8},{9, 2},{1, 6}} ;

Which of the following option(s) are correct to initialize a two-dimensional array with 3 rows and 2 columns?

(a) (ii) only
(b) (iii) only
(c) (ii) and (iii)
(d) (i) and (iii)

Q16

Editors are used to compile the code.

    (a) True
    (b) **False**

Q17

What are global variables? (1)

ANS
Global variables are those that are defined outside of main. It can be
accessed in entire program.

Q18

Is it possible to evaluate the size of structure, if yes then how? (1)

ANS

YES

```cpp
#include <iostream.h>
 #include <stdlib.h>
struct VehicleParts
 {
 int
wheels;
int seats;
VehicleP
arts()
 {
cout << "\n VehicleParts - default constructor";
 }
VehicleParts(int wheels, int seats)
{
 this->wheels = wheels; this->seats = seats; cout << "\n VehicleParts -
parameterized constructor";
 }
```

Q19

Write down the general syntax of switch statement. (22)

ANS
switch (variable/expression)
{
case constant1 : statementLlist1
; case constant2:
statementLlist1 ; default:
statementLlist1 ;
}Q20

What will be the output of following code
segment?   (3) int x[5] = {2, 4, 5, 7, 1} ; int *ptr
=&x[2]; cout << (*ptr)++ <<" " ;

cout << *ptr++ ;

ANS

5 6
Q22

What is the difference between compiler and interpreter? (5)

ANS

compiler and interpreter are system software but the difference is that
the complier compile the whole program but the interpreter is complied
line by line. Compiler are efficient in performance.

Q23   (10)

Write a recursive function that takes three arguments (an integer array, starting
subscript 's' and ending subscript 'e').
In first recursive call, the function should display the array from subscript 's' (s = 0) to
'e' (e = size of array). In each successive call, the function should print the array from
index s+1 to e. The function should stop processing and return when starting
subscript becomes equal to ending subscript.

For example, if user enters values for array 2, 3, 4, 5, 6 then the recursive function must display the following output.

```
2 3 4 5 6
3 4 5 6
4 5 6
5 6
6
```

ANS

```cpp
#include<iostream.h>
#include<conio.h>
void recursive(int
[],int,int); void main()
{   int
array[5];
for(int
i=0;i<5;i++)
  {
    cout<<"\nEnter the "<<i<<" Index number :";
cin>>array[i];
  }
  recursive(array,0,4);  //0 is the starting index and 4 is the ending subscript
getche();
} void recursive(int
arr[],int s,int e)
{
if(s!
=e+1
)
  {     for(int
i=s;i<=e;i++)
cout<<arr[i]<<"\t
";;

    cout<<endl;    s++;
recursive(arr,s,e);        //Recursive call
```

}

}

Q1

What is function of **cout** ?

   (a) **To send data to printer**
   (b) **To read data from keyboard**
   (c) **To display message**
   (d) **To display output on the screen**

Q2

< , <= , > , >= are called --------------------------- operators. (a) Logical

   (b) **Arithmetic**
   (c) **Relational**
   (d) **Conational**

Q3

In while loop the loop counter must be initialized,

   (a) **With in the loop**
   (b) **Before entering the loop**
   (c) **At the end of the loop**
   (d) **None of the given options**

Q4

Data Size of the file is always _____ the actual size
of the file. **(a) Greater than**

   (b) **Equal to**
   (c) **Less than or equal to**
   (d) **None of the above**

Q5

The precedence of * is higher than dot operator (.)operator

(a) **True**

(b) False

Q6

Let ptr1 and ptr2 are pointer variables that points to integer data type then which one of the following arithmetic is allowed,

(a) ptr1 + ptr2

(b) ptr1 – ptr2

(c) **ptr1 * ptr2**

(d) ptr1 / ptr2

Q7

Word processor is

(a) Operating system

(b) **Application software**

(c) Device driver

(d) Utility software

Q8

What will be the range of numbers generated by function rand () % 9?

(a) 0 to 9

(b) 1 to 9

(c) **0 to 8**

(d) 1 to 8

Q9

How many bytes will the pointer **intPtr** of type **int** move in the following statement? **intPtr += 3 ;**

(a) 3 bytes

(b) 6 bytes

(c) 12 bytes

(d) 24 bytes

Q10

What will be the correct syntax to assign an array named **arr** of 5 elements to a pointer **ptr**?

(a) *ptr = arr ;
(b) ptr = arr ;
(c) ***ptr = arr[5] ;**
(d) ptr = arr[5] ;

Q11

What will be the output of the following code segment?

char *x = "programming" ;
cout << *(x+2) << *(x+3) << *(x+5) << *(x+8) ;

(a) p
r
g
m

(b) r
o
r
m

(c)
o
g
a
i

(d) ramg

Q12

There is a pointer variable named **ptr** of type int then address of which type of variable the **ptr** will store in it?

(a) variable of type char
(b) variable of type short
(c) **variable of type int**

(d) variable of type double

Q13

Flow charts explain the working of a program in pictorial format. **(a) True**

(b) False

Q14

The object _____may be used both for file input and file output (a) fstream,

(b) **ifstream,**

(c) ofstream,

(d) none of the given options.

Q15

Most efficient method of dealing with structure variables is to define the structure globally

(a) **True**

(b) False

Q16

If a variable is passed by value to a function and the function makes some changes to that variable then it

(a) **does not affect the original variable**

(b) affects the original variable

(c) causes syntax error

(d) None of the given options

Q17

How does elements of two-dimensional array store into memory? (1)

ANS

Two dimensional arrays are also stored in liner order. As like one dimensional array.

Q18

What is a structure? **(1)**

ANS

In structure, we introduce a new data type. "A structure is a collection of variables under a single name. These variables can different types, and each has a name that is used to select it from the structure"

Q19 (2)

When a pointer is incremented then how many bytes will it move to change its address?

ANS

If an integer occupies four bytes in the memory, then the **yptr++; will** increment its value by four.

Q20

What happens when we increment a pointer? (3)

ANS

become 11. The increment of a pointer depends on its data type. The data type, the pointer points to, determines the amount of increment. In this case, *yptr* is an integer pointer. Therefore, when we increment the *yptr*, it points to the next integer in the memory. If an integer occupies four bytes in the memory, then the *yptr++*; will increment its value by four. This can be understood from the following example.

.

Q21

What are the advantages of random access file over sequential access file? (5)

Q22

Write a C/C++ program which calculates the aggregate of a student. The aggregate can be calculated by the formula: (10)

 Aggregate = (Matrix_marks*2 + Fsc_marks*4) / 24

If the aggregate of a student is less than 150 then the program should display message

"You can not be admitted to VU" otherwise display the message **"Congratulation! You admitted in VU "**

ANS

```
#include<iostream.h>
#include<conio.h>


main()
{
int
m,f;
floa
t a;
m=2
54;
f=34
0;
   a = ((m*2) +
(f*4))/24;    if(a <
150)
   {
```

```
        cout <<"You can not be admitted to VU";


}
el
s
e
  {
    cout <<"Congratulation! You admitted in VU ";
  }
  //Aggregate = (Matrix_marks*2 + Fsc_marks*4) / 24

  getche();
}
```

Q1

In C/C++ language the header file which is used to perform useful task and manipulation of character data is

- (a) cplext.h
- (b) **ctype.h**
- (c) stdio.h
- (d) delay.h

Q2

The header file which is used for input and output is

- (a) maths.h
- (b) string.h
- (c) **iostream.h**

(d) ctype.h

Q3

Suppose **int multi[5][10];** when we are using ****multi** , it means,

- (a) Single dereferencing
- (b) Single referencing
- (c) **Double referencing**
- (d) Double dereferencing

Q4

To access the data members of structure _____ is used.

- (a) **dot operator (.)**
- (b) *** operator**
- (c) **operator (d) None of given.**

Q5

The precedence of * is higher than dot operator (.)operator

- (a) **True**
- (b) False

Q6

Which of the following is the starting index of an
array in C++? **(a) 0**

- (b) 1
- (c) –1
- (d) any number

Q7

When a call to function statement is encountered,

- (a) **The control transfers to its Prototype**
- (b) The control transfers to its definition
- (c) Control returns to statement following function call
- (d) The compiler stops execution of whole program

Q8

A function must always return value.

(a) True
(b) **False**

Q9

If an array has 100 elements, what is allowable range of subscripts?

(a) 0 – 99
(b) 1 – 99
(c) **0 – 100**
(d) 1 – 100

Q10

If a pointer appears on left hand side of an assignment operator then right side of that assignment operator must be,

(a) Variable name
(b) **Address of variable**
(c) Variable value
(d) Constant

Q11

Editors are used to compile the code.

(a) True
(b) **False**

Q12

Which bitwise operator returns false if both bits are 1?

(a) AND
(b) XOR
(c) NOT
(d) **OR**

Q13

What does !(7) evaluate to in decimal where ! is a NOT operator? **(a) 7**

(b) 8

(c) 9

(d) 10

Q14

Structures cannot be passed as Function Parameters

(a) True

(b) **False**

Q15

When break statement is encountered in a loop body it,

(a) **Transfers the control outside from current loop**

(b) Transfers the control outside from current program (c) Enforces the next iteration of loop (d) Generates compile time error.

Q16

A union is a user-defined data type that contains only _____from its list of members at a time.

(a) **One object**

(b) **Two objects**

(c) **Three objects**

(d) **None of the given options**

Q17

Why programming is important? Describe in ONE line. (1)

"A program is a precise sequence of steps to solve a particular problem."

Q18

Which bitwise operator returns true if both bits are different and returns false if both bits are same? (1)

ANS

1. !=
2. ==

Q19

Why we close a file after use?   (2)

ANS
To save our data stored on file. Also this process makes our program fast and reliable.

Q20

Can you use an assignment operator to assign the value of one C-string to another? (3)

ANS
Yes we can assign value c-string to another i.e char a={'I Love Pakistan'}; char b={'I Love Pakistan'};

Q21

The statement int Name [2][2]; define a 2x2 array, Write the code which read data from keyboard for this array.   (5)

ANS

```
for(int i=o; i<2; i++)
 {
      for (w=0; w<2; w++)
        {
```

```cpp
                cin >>Name[i][w];

        }

    cout <<endl;

}

for(int i=o; i<2; i++)

 {

     for (w=0; w<2; w++)

       {

                cout<<Name[i][w]<<" ";

       }

    cout <<endl;

}
```

Q22

Write a program which reads a text file "**PlayersInfo.txt**" residing in the current directory. Open the file **PlayersInfo.txt** in read mode and assign these values to the struct **Player;** assume order of the data in the file to be exactly the same as the order of struct attributes. The struct **Player** has following attributes

i) Name
ii) Height
iii) Age **iv)** Score **v)** Game

After reading the file and assigning values to the struct, in the end close the file

PlayersInfo.txt.   **(10)**

Q1

The size of int data type is

    (a) 1 bytes
    (b) **2 bytes**
    (c) 3 bytes
    (d) 4 bytes

Q2

When the logical operator AND (&&) combine two expressions exp1 and exp2 then the result will be true only,

    (a)   **When both exp1 and exp2 are true**
    (b)   When both exp1 and exp2 are false
    (c)   When exp1 is true and exp2 is false
    (d)   When exp1 is false and exp2 is true Q3

The correct syntax of do-while loop is,

    (a) (condition) while; do { statements; };
    (b) { statements; } do-while ();
    (c) while(condition); do { statements; };
    (d) **do { statements; } while (condition);**

Q4

_____ provide communication channels between files and program.

    (a) Streams
    (b) Language like C++
    (c) **Function seekg()**
    (d) None of the above

Q5

All elements of an array must be of,

    (a) different data type
    (b) float data only
    (c) character data only
    (d) **same data type**

Q6

Function seekg() takes _____ parameter(s).

  (a) 0
  (b) **1**
  (c) 2
  (d) 3

Q7

Structures help to define program-specific _____ .
  (a) **functions**
  (b) **datatypes**
  (c) **Arithmetic operations (d) None of the given options.**

Q8

In the declaration of two dimensional array,

  (a) **First index represents row and second represents column**
  (b) First index represents column and second represents row
  (c) Both indexes represent rows
  (d) Both indexes represent column

Q9

 What will be the result of arithmetic expression
  6+27/3*3? **(a) 33**

  (b) 45
  (c) 9
  (d) 30

Q10

Which of the function call is **call by value** for the following function prototype?

float area (int);
  (a) area(&num) ;
  (b) **area(num) ;**
  (c) area(int num) ;

(d) area(*num) ;

Q11

How many bytes are occupied by declaring following array of characters?

 char str[] = "programming";

  (a) 10
  (b) 11
  (c) 12
  (d) 13

Q12

What will be the correct syntax to assign an array named **arr** of 5 elements to a pointer **ptr**?

  (a) *ptr = arr ;
  (b) ptr = arr ;
  (c) ***ptr = arr[5] ;**
  (d) ptr = arr[5] ;

Q13

Let ptr1 and ptr2 are pointer variables then which of the following arithmetic operation is allowed on pointers?

  (a) Addition
  (b) Subtraction
  (c) Multiplication
  (d) **All of the above**

Q14

The variables having a name, type and size are just like empty boxes.

  (a) **True**
  (b) False

Q15

When break statement is encountered in a loop body it,

(a) **Transfers the control outside from current loop**

(b) Transfers the control outside from current program (c) Enforces the next iteration of loop (d) Generates compile time error.

Q16

If two programs **a** and **b** are trying to open a file **xyz.txt** at approximately same time then

(a) **Both programs will generate error**

(b) One of them will succeed in opening that file and other will fail

(c) Both programs will open the file

(d) One of the program will re-start

Q17

What is meant by array manipulation?   (1)

Q18

What will be the value of x after the execution of the following code segment? (1)

```
 int x
=10;  int
y =30;
int *xptr
= &x;
 x = *xptr + 10;
```

Q19   (2)

What is the output of the code given below? void main()

    {

```
   int
a=10,b=20;
char x=1,y=0;
if(a,b,x,y)

  {

    cout << "EXAM";


 }
 }
```

Q20

What is Overflow condition?   (3)

ANS
When we try to store larger information in a variable, than a data type can store, overflow condition occurs.

Q21

Write code which read a string not greater than 20 characters from keyboard stored it in an array Name and display it on the screen. (5)

ANS
char string[19];
cout<<"Enter a
string"; cin >>
string;

Q22   (10)

Write a C++ program which contains a user–define function named **convertHeight** which takes height of person in centimeter as an

argument. This function converts the height in centimeter into feet and inches and displays them on the screen.

Program should prompt the user to enter height in centimeter and pass it to function **convertHeight** as an argument which displays height in feet and inches.

Hint:

1 foot = 12 inches

1 inch = 2.5 cm

ANS

```cpp
#include<iostream.h>

#include<conio.h>

void convertHeight (int);

main()

{
int
high
t;

   cout <<"Enter the High of the
Person = ";    cin >> hight;
convertHeight(hight);

  getche();

}


void convertHeight (int f)
```

```
{

  //1 foot = 12 inches

  //1 inch = 2.5 cm


int
i,c;
i =
f*1
2;

  c = i*2.5;

  cout <<"high in Feet = "<<f<<endl;   cout <<"high in inches =  "<<i<<endl;

  cout <<"high in CM =  "<<c<<endl;


}
```

Q1

The data type of size one byte is

(a) char
(b) int
(c) long
(d) double

Q2

If Num is an integer variable then Num*= 4; means,

(a) Multiply Num 4 times
(b) Multiply 4 with Num and display
(c) **Multiply 4 with Num and assign the result to Num**
(d) Add 4 with Num

Q3

Member function tellg() returns the current location of the _____ pointer.

(a) **tellptr()**
(b) write()
(c) seekg()
(d) get()

Q4

If we want to store a string "abc" in an array str then the size of this array must be at least,

(a) **2**
(b) 3
(c) 4
(d) 5

Q5

Pointer is a variable which store,

(a) Values
(b) Data
(c) **Memory Address**
(d) Data Type

Q6

C is widely known as development language of _____ operating system. (a) Linux

(b) **Windows**
(c) Unix
(d) Mac OS

Q7

C++ is a case-sensitive language

(a) **True**
(b) False

Q8What is the output of the following code?
for (int a = 1; a <= 1; a++) cout << a++; cout << a;

(a) 22
(b) **12**
(c) 23
(d) 13

Q9

A continue statement causes execution to skip to

(a)the return 0; statement

(b) the first statement after the loop
(c) the statements following the continue statement
(d) **the next iteration of the loop**

Q10

If there is more than one statement in the block of a for loop, which of the following must be placed at the beginning and the ending of the loop block? (a) parentheses ( )

(b) **braces { }**
(c) brackets [ ]
(d) arrows < >

Q11

What will be the correct syntax for the following function call?

float square (int &);

(a) square (int num);
(b) **square (&num);**

(c) square (num);

(d) square (*num);

Q12

Which of the following is the correct way to assign an integer value 5 to element of a matrix say 'm' at second row and third column?

(a) **m[2][3] = 5 ;**

(b) m[3][2] = 5 ;

(c) m[1][2] = 5 ;

(d) m[2][3] = '5';

Q13

How many dimensions does n–dimensional array has?

(a) n dimensions

(b) 2n dimensions

(c) (n+1) dimensions

(d) (n–1) dimensions

Q14

Consider the following code segment. What will be the output of following code?

```
int addValue
(int *a){ int b
= (*a) + 2;
return b ;

}

main () { int x =6 ;
cout << x << "," ; cout
<< addValue(&x) <<
",";
```

cout << x ;

}

(a) **6,8,6**
(b) 6,6,8
(c) 6,8,8
(d) 6,6,6

Q15

If most significant bit of un-signed number is 1 then it represents a positive number.

(a) **True**
(b) False

Q16

When we declare a multidimensional array the compiler store the elements of multidimensional array in the form of,

(a) Contiguous memory location
(b) **Matrix**
(c) Columns
(d) Rows

Q17

What is the functionality of the function:**char *strncat (char *s1, const char *s2, size_t n)** **(1)**

ANS

char *strncat(char *s1, const char *s2, size_t n)	Appends at most n characters of string s2 to array s1. The first character of s2 overwrites the terminating null character of s1. The value of s1 is returned.

Q18

Write a piece of code that outputs three values of type int, long and float to a stream. (1)

ANS
main()

```
{
int
a;
lon
g
b;
flo
at
c;

  a = 10;
b=
124568979
;   c = 6.57;

  cout <<a<<"\t"<<b<<"\t"<<c;


  getche();

}
```

Q19
Which bit of the number is used as a sign bit? (2)

ANS
The most significant bit is used as a sign bit.
Q20

What is difference between single-dimensional and multi-dimensional array?

ANS
Single dimentional array used to stored lists and muli dimestional arrays used to stored value as tabler formate i.e matrix.

Q21

Write down the C++ program that calculates the Zakat on the amount entered by the user

Note: Zakat is 2.5% of the given amount
(5) **ANS**

```
main()

{

  int amount;

  float zakat;

  cout <<"Enter the Amount = ";
cin >>amount;   zakat =
(amount*2.5)/100;   cout
<<"Amount =
"<<amount<<endl;   cout
<<"Amount = "<<zakat<<endl;

  getche();

}
```

Q22
What is meant by scope of identifiers? Differentiate between different scope of identifiers and explain them with examples? (10)

Scope of Identifiers

An 'Identifier' means any name that the user creates in his/her program. These names can be of variables, functions and labels. Here the scope of an identifier means its visibility. We will focus Scope of Variables in our discussion.

Now this variable 'i' can be used in any statement inside the function func1(). But consider this variable being used in a different function like:

```
void func2()
{
int k = i + 4; //Compilation error
}
```

The variable 'i' belongs to func1() and is not visible outside that. In other words, 'is local to func1().

Q1

What is function of **cout** ?

    (a) To send data to printer
    (b) To read data from keyboard
    (c) To display message
    (d) **To display output on the screen**

Q2

For one byte there are _____ combinations of values that can be stored in computer.

    (A) 2^6
    (B) 2^7
    (C) 2^8
    (D) 2^4

Q3

_____ provide communication channels between files and program.

    (a) Streams
    (b) Language like C++
    (c) **Function seekg()**
    (d) None of the above

Q4

The data type before a function name represents its,

    (a) **Return Type**
    (b) Function data
    (c) Function arguments

Q5

In C/C++ language when an array is passed to a function then by default its passing mechanism is,

(a) Call by value
(b) **Call by Reference**
(c) It depends on type of array
(d) It depends on the return type of function.

Q6

Array is a data structure which store

(a) Memory addresses
(b) **Variables**
(c) Data Type
(d) Data

Q7

If there is more than one statement in the block of a for loop, which of the following must be placed at the beginning and the ending of the loop block? (a) parentheses ( )

(b) **braces { }**
(c) brackets [ ]
(d) arrows < >

Q8

Array is passed by value to a function by default.

(a) True
(b) **False**

Q9

Which of the following is the correct function call having array named **student** of 10 elements as a parameter.

(a) addRecord(student[]) ;

(b) addRecord(student) ;

(c) **addRecord(student[10]) ;**

(d) addRecord(*student) ;

Q10

What will be the correct syntax for initialization of pointer **ptr** of type int with variable **x**?

(a) int ptr = &x ;

(b) int ptr = x ;

(c) **int *ptr = &x ;**

(d) int ptr* = &x ;

Q11

What will be the correct syntax for initialization of pointer **ptr** with string "programming"?

(a) char ptr = 'programming' ;

(b) **char *ptr = "programming" ;**

(c) char *ptr = 'programming' ;

(d) *ptr = "programming" ;

Q12

The condition in while loop may contain logical expression but not relational expression.

(a) **True**

(b) False

Q13

We want to access array in random order which approach is better?

(a) **Pointers**

(b) Array index

(c) Both pointers and array index are better (d) None of the given options.

Q14

Single line comments explaining code would be preceded like in the following example.

(a) /*
(b) **//**
(c) /
(d) //*

Q15

Function write() takes _____ as parameter(s).

(a) String of pointer type
(b) String and no. of bytes to be written
(c) Pointer array of characters and delimiter
(d) **String of variable lengths, no. of bytes to be read and flags**

Q16

Structure is a collection of _____ under a single name.

(a) **Only Functions**
(b) Only Variables
(c) **Both Functions and Variables**
(d) None of the given options

Q17

What will be the correct syntax to initialize a pointer '**ptr**' with two-dimensional array '**m**'? (1)

ANS
int
m[2
][2];
int *
ptr;
ptr
=
*m;

Q18

Which one of the loop (while or do-while) must be used if it is necessary to execute a loop at least once? (1)

ANS
do-while loop

Q19

Identify each of the following function as string conversion function or string manipulation function. (2) **double atof(const char *nptr) char *strcpy (char *s1, const char *s2) int atoi(const char *nptr)**

 ANS
1.   **double atof(const char *nptr)** ---   Converts the string nPtr to double. **2. char *strcpy (char *s1, const char *s2)** - Copies string **s2** into character array **s1**. The value of is returned.

3.   **int atoi(const char *nptr)**--   Converts the string **nPtr** to **int**.

Q20
What is difference between single-dimensional and multi-dimensional array? (3)

ANS
Single dimentional array used to stored lists and muli dimestional arrays used to stored value as tabler formate i.e matrix.

Q21
What will be the output of following code segment? (5) int num[10] = {2, 3, 5, 8, 9, 10, 12, 15, 19, 20} ; int *ptr = num ; for (int i=0; i<10; i+=2){

cout << *(ptr+i) << ",";

}

ANS

2, 5, 9, 12, 19,

Q22

Write a C++ program which contains a user-define function named **convertHeight** which takes height of person in centimeter as an argument. This function converts the height in centimeter into feet and inches and displays them on the screen.   (10)

Program should prompt the user to enter height in centimeter and pass it to function **convertHeight** as an argument which displays height in feet and inches.

Hint:

1 foot = 12 inches

1 inch = 2.5 cm

ANS

```
#include<iostream.h>

#include<conio.h>

void convertHeight (int);

main()

{
int
high
t;
```

```cpp
    cout <<"Enter the High of the
Person = ";    cin >> hight;
convertHeight(hight);


  getche();

}


void convertHeight (int f)

{

  //1 foot = 12 inches

  //1 inch = 2.5 cm

  int
i,c;
i =
f*12;
c =
i*2.5
;
cout
<<"h
igh
in
Feet
=
"<<f<
<en
dl;
cout
<<"h
igh
in
inch
```

```
es =
"<<i<
<en
dl;

  cout <<"high in CM =  "<<c<<endl;


}
```

Q1

Compiler is a

(a) **System software**
(b) Application Software
(c) Driver
(d) Editor

Q2

In while loop the loop counter must be initialized,

(a) With in the loop
(b) **Before entering the loop**
(c) At the end of the loop
(d) None of the given options

Q3

If Num is an integer variable then Num*= 4; means,

(a) Multiply Num 4 times
(b) Multiply 4 with Num and display
(c) **Multiply 4 with Num and assign the result to Num**
(d) Add 4 with Num

Q4

In C/C++ ,the arguments are passed by _____ to a function by default . (a) reference

(b) **value**

(c) data

(d) type

Q5

Disks is divided into _____ with power of_____.

(a) Chunks, 2^n

(b) Blocks, n^2

(c) Blocks, 2^n

(d) Chunks, n^2

Q6

C is widely known as development language of _____ operating system. (a) Linux

(b) **Windows**

(c) Unix

(d) Mac OS

Q7

Assignment operator '=' is a

(a) Unary operator

(b) **Binary operator**

(c) Ternary operator

(d) None of the given options

Q8

Consider the following code segment. What will be the output of the following program?

```
int func(int) ;
int num = 10 ;

int
main(){
int num
; num =
5 ; cout
<< num
;
cout << func(num) ;
}
int func(int x){
return num ;
}
```

    (a) **5, 5**
    (b) 10, 5
    (c) 5, 10
    (d) 10, 10

Q9

Name of an array is a constant pointer.

    (a) **True**
    (b) False

Q10

What will be the correct syntax to assign an array named **arr** of 5 elements to a pointer **ptr**?

    (a) *ptr = arr ;
    (b) ptr = arr ;
    (c) ***ptr = arr[5] ;**
    (d) ptr = arr[5] ;

Q11

If there are $2^{(n+1)}$ elements in an array then what would be the number of iterations required to search a number using binary search algorithm?

    (a) n elements
    (b) (n+1) elements
    (c) 2(n+1) elements
    (d) $2^{(n+1)}$ elements

Q12

In C/C++, null character is represented as

    (a) **\n**
    (b) \0
    (c) \t
    (d) \r

Q13

How many nested loop would be required to manipulate n–dimensional array? (a) 2n

    (b) **n**
    (c) n +1
    (d) n –1

Q14

What will be the correct syntax to access the value of fourth element of an array using pointer ptr?

    (a) **ptr[3]**
    (b) (ptr+3)
    (c) *(ptr+3)
    (d) Both 1and 3

Q15

Single line comments explaining code would be preceded like in the following example.

    (a) /*

(b) **//**

(c) /

(d) //*

Q16

If a variable is passed by value to a function and the function makes some changes to that variable then it

(a) **does not affect the original variable**

(b) affects the original variable

(c) causes syntax error

(d) None of the given options

Q17

What is meant by *num and &num? [1]

ANS

* num is a pointer and &num is a reference to that pointer.

Q18

Suppose there is a pointer to structure ***sPtr**. How can we access the data member '**name**' with **sPtr**? [1]

ANS

Structure data members using pointers Using the * operator;

(*sptr).name

Q19

Why we close a file after use? [2]

ANS

To save our data stored on file. Also this process makes our program fast and reliable

Q20

Define Flow chart. [3]

ANS

Flow Chart
A flow chart is a pictorial representation of a program. There are labeled geometrical symbols, together with the arrows connecting one symbol with other. A flow chart helps in correctly designing the program by visually showing the sequence of instructions to be executed.

Q21

Write down the function definition if **we want to pass the arguments to a function by reference without changing the values stored at that addresses. [5]**

Q22

From writing to execution of the program following software are used explain for what purpose each is used.   [10]

Editor

Compiler/Interpreter

Linker

Loader

ANS
Editors is a tool for writing the code of a program. For this purpose we used Editors in which we write our code. We can use word

processor too for this, but word processors have many other features like bold the text, italic, coloring the text etc, so when we save a file written in a word processor, lot of other information including the text is saved on the disk. For programming purposes we don't need these things we only need simple text. Text editors are such editors which save only the text which we type. So for programming we will be using a text editor

Compiler and Interpreter

Compilers translate the English like language (Code written in C) into a language (Machine language) which computers can understand. The Compiler read the whole program and translates it into machine language completely. The difference between interpreter and compiler is that compiler will stop translating if it finds an error and there will be no executable code generated whereas Interpreter will execute all the lines before error and will stop at the line which contains the error. So Compiler needs syntactically correct program to produce an executable code. We will be using compiler in our course

As we write the code in English and we know that computers can understand only 0s and 1s. So we need a translator which translates the code of our program into machine language. There are two kinds of translators which are known as Interpreter and Compilers. These translators translate our program which is written in C-Language into Machine language. Interpreters translates the program line by line meaning it reads one line of program and translates it, then it reads second line, translate it and so on. The benefit of it is that we get the errors as we go along and it is very easy to correct the errors. The drawback of the interpreter is that the program executes slowly as the interpreter translates the program line by line. Another drawback is that as interpreters are reading the program line by line so they cannot get the overall picture of the program hence cannot optimize the program making it efficient.

.

Linker Most of the time our program is using different routines and functions that are located in different files, hence it needs the executable code of those routines/functions. Linker is a tool which performs this job, it checks our program and includes all those routines or functions which we are using in our program to make a standalone executable code and this process is called Linking

Loader after a executable program is linked and saved on the disk and it is ready for execution. We need another process which loads the program into memory and then instruct the processor to start the execution of the program from the first instruction (the starting point of every C program is from the main function). This processor is known as loader. Linker and loaders are the part of development environment. These are part of system software.

Q1

There are mainly -------------------- types of software

    (a) **Two**
    (b) Three
    (c) Four
    (d) Five

Q2

< , <= , > , >= are called ------------------------- operators.

    (a) Logical
    (b) Arithmetic
    (c) **Relational**
    (d) Conational

Q3

In order to get 256 from the number 2568 we divide this number by 10 and take,

(a) Its remainder

(b) The number

(c) Its quotient

(d) Its divisor

Q4

If int x = 10; then the value of x/= 3; will be,

(a) 10

(b) **3**

(c) 13

(d) 1

Q5

How many parameter(s) function getline() takes?

(a) 0

(b) 1

(c) 2

(d) **3**

Q6

Suppose **int multi[5][10];** when we are using **multi , it means,

(a) Single dereferencing

(b) Single referencing

(c) **Double referencing**

(d) Double dereferencing

Q7

To access the data members of structure _____ is used.

    (a) **dot operator (.)**

    (b) *** operator**

    (c) **operator** (d) **None of given.**

Q8

There is NO difference between **bitwise AND operator (&)** and **Logical AND (&&) operator. (a) True**

    (b) False

Q9

Which of the following data type(s) can operate on modulus operator '%'?

    (a) **float, int**
    (b) float, double
    (c) int
    (d) char

Q10

What's wrong with this while loop?

while((i < 10) && (i > 24))

    (a) the logical operator && cannot be used in a test condition
    (b) the while loop is an exit-condition loop
    (c) **the while loop is an exit-condition loop**
    (d) the test condition is always true

Q11

The switch structure is a _____construct

    (a) single-selection
    (b) bi-selection
    (c) **multiple-selection**
    (d) unconditional

Q12

Keyword 'array' must be used to declare an array.

    (a) **True**
    (b) False

Q13

What will be the correct syntax to declare two-dimensional array of float data type?

    (a) float arr{2}{2} ;
    (b) **float arr[2][2] ;**
    (c) float arr[2,2] ;
    (d) float[2][2] arr ;

Q14

When an array element is passed to a function then this array element is passed to the function,

    (a) **By reference**
    (b) By data type
    (c) By value
    (d) By data

Q15

Which of the following operator is used to access the value of variable pointed to by a pointer?

    (a) * operator
    (b) -> operator
    (c) && operator
    (d) **& operator**

Q16

Paying attention to detail in designing a program is _____

    (a) Time consuming
    (b) Redundant
    (c) **Necessary**
    (d) Somewhat Good

Q17

How does elements of two-dimensional array store into memory? (1) Two dimensional arrays are also stored in liner order. As like one dimensional array.

Q18

Which strategy is used by binary search algorithm to search a number? (1)

ANS
'divide and conquer' strategy is applied.

Q19

Write down the general syntax of switch statement. (2)

ANS
switch (variable/expression)
{
case constant1 : statementLlist1
; case constant2:
statementLlist1 ;
default: statementLlist1 ;
}

Q20

What is a Linker? (3)

Linker Most of the time our program is using different routines and functions that are located in different files, hence it needs the executable code of those routines/functions. Linker is a tool which performs this job, it checks our program and includes all those routines or functions which we are using in our program to make a standalone executable code and this process is called Linking

Q21

What are similarities and differences between Structures and Unions? (5)

Structure

In structures, the data members are public by default. It means that these are visible to all and anyone can change them. Is there any disadvantage of this? Think about the date.

syntax

struct student

{

 char name[60];
char address[100];

float GPA;

};

Unions We have another construct named union. The concept of union in C/C++ is: if we have something in the memory, is there only one way to access that memory location or there are other ways to access it. We have been using int and char interchangeably in our programs. We have already developed a program that prints the ACSII codes. In this program, we have stored a char inside an integer. Is it possible to have a memory location and use it as int or char interchangeably? For such purposes, the construct union is used. The syntax of union is: union intOrChar

{

```
int i;

char c;

};
```

Q22

Differentiate between C and c++. (10)

1. **C was the C++ predecessor. As it's name implies, alot of C remains in C++. Although not actually being more powerful than C.**

2. **C++ allows the programmer to more easily manage and operate with Objects, using an OOP (Object Oriented Programming) concept**

3. **C++ allows the programmer to create classes, which are somewhat similar to C structures. However, to a class can be assigned methods, functions associated to it, of various prototypes, which can access and operate within the class, somewhat like C functions often operate on a supplied handler pointer.**

4. **Although it is possible to implement anything which C++ could implement in C, C++ aids to standardize a way in which objects are created and managed, whereas the C programmer who implements the same system has a lot of liberty on how to actually implement the internals, and style among programmers will vary a lot on the design choices made**

5. **In C, some will prefer the handler-type, where a main function initializes a handler, and that handler can be supplied to other functions of the library as an object to operate on/through. Others will even want to have that handler link all the related function pointers within it which then must be called using a convention closer to C++.**

6. **C++ applications are generally slower at runtime, and are much slower to compile than C programs. The low-level infrastructure for C++ binary execution is also larger. For these reasons C is always commonly used even if C++ has alot of**

popularity, and will probably continue to be used in projects where size and speed are primary concerns, and portable code still required (assembly would be unsuitable then).

Q1

The remainder (%) operator is

- (a) A logical operator
- (b) **An arithmetic operator**
- (c) A relational operator
- (d) A division operator

Q2

If int sum = 10; then the value of the statement sum = sum + 3 ; is , (a) 7

- (b) Illegal statement
- (c) Garbage value
- (d) **13**

Q3

Which of the following function(s) is/are included in **ctype.h** header file? (a) isdigit(int c)

- (b) isxdigit(int c)
- (c) tolower(int c)
- (d) **All of the above**

Q4

In C/C++ which of the following header file is used for string manipulation? **(a) stdlib.h**

- (b) string.h
- (c) strings.h
- (d) stype.h

Q5

_____ provide communication channels between files and program.

(a) Streams

(b) Language like C++

(c) **Function seekg()**

(d) None of the above

Q6

_____ translates high level language program into machine language code

(a) Debugger

(b) Editor

(c) **Compiler**

(d) Linker

Q7

Which of the following data type(s) can operate on modulus operator '%'? **(a) float, int**

(b) float, double

(c) int

(d) char

Q8

C++ is a case-sensitive language

(a) **True**

(b) False

Q9

To include code from the library in the program, such as iostream, a directive would be called up using this command.

(a) #include "iostream.h"

(b) include <iostream.h>

(c) include <iostream.h>

(d) **#include <iostream.h>**

Q10

What will be the range of numbers generated by function rand () % 9?

(a) 0 to 9

(b) 1 to 9

(c) **0 to 8**

(d) 1 to 8

Q11

An array stores the numbers into consecutive memory locations. **(a) True**

(b) False

Q12

Which of the following is the correct statement for the following declaration?

const int *ptr.

(a) ptr is a constant pointer

(b) **ptr is constant integer pointer**

(c) ptr is a constant pointer to int

(d) ptr is a constant pointer to int

Q13

Which of the following header file defines the **rand()** function?

(a) iostream.h

(b) conio.h

(c) **stdlib.h**

(d) stdio.h

Q14

Consider the following code segment. What will be the output of following code?

```
int addValue
(int *a){ int b =
(*a) + 2;

return b ;
```

```
}
main () { int x =6 ;
cout << x << "," ; cout
<< addValue(&x) <<
"," ;

cout << x ;

}
```

   (a) **6,8,6**
   (b) 6,6,8
   (c) 6,8,8
   (d) 6,6,6

Q15

Identifier is a name that can be given to variables, labels and
   functions. **(a) True**
   (b) False

Q16

For which array, the size of the array should be one more than the
number of elements in an array?

   (a) Int
   (b) Char
   (c) Double
   (**d) float**

Q17

Give a precise definition of **function** . (1)

 ANS

**Functions In C/C++, functions are a way of modularizing the code. A
bigger problem is broken down into smaller and more manageable
parts. There is no rule of thumb for the length of each part but
normally one function's length is not more than one screen.**

Q18

What will be the size of array if we initialize an array with declaration: **int arr[] = {0, 0, 0, 0};**? (1)

ANS

int arr[3];

Q19

What is the difference between **switch** statement and **if** statement.   (2)

ANS

In switch statement only one variable can be tested on various condition but using if we can tested multi variables in single statement

Q20

Evaluate the following arithmetic expressions.   (3)

a) X = 2 + 6 * 4 – 4 * 20 / 5 + 3 * 2
b) Y = (6 * 7) – (2 + 3) * (3 – 1) + 5 * (3 + 1)

ANS

a) X = 2 + (6 * 4) – ((4 * 20) / 5) + (3 * 2)
b) Y = ((6 * 7) – (2 + 3) * (3 – 1) + (5 * (3 + 1)))
   a) 16
   b) 52

Q21

What is the difference between = in C as compared to = used in algebra. (5)

ANS

In C = sign is used to assigned the value in algebra = sign is show that the both side are equal.

In C there must be a variable on the = sign and the right side of the = sign must be a arithmetic expression, variable or a value.

In algebra both side of the equation may or may not be expression. Q22

Write a program which consists of three variables Area, Per, Base, this program should find the area of triangle using the formula, (10)

Area = (Base * Per)/2

```
#include<iostream.h>
#include<conio.h> main()

{

  float Area, Per, Base;    // Area = (Base * Per)/2

  Per = 5.0;

  Base = 2.5;

  Area = (Base * Per)/2;    cout <<"Area = "<<Area;
getche();

}
```

Q1

In C/C++ language the header file which is used to perform useful task and manipulation of character data is

(e) cplext.h
(f) **ctype.h**
(g) stdio.h
(h) delay.h

Q2

The header file which is used for input and output is

(e) maths.h
(f) string.h
(g) **iostream.h**
(h) ctype.h

Q3

Suppose **int multi[5][10];** when we are using ****multi** , it means,

(e) Single dereferencing
(f) Single referencing
(g) **Double referencing**
(h) Double dereferencing

Q4

To access the data members of structure _____ is used.
(e) **dot operator (.)**
(f) * operator
(g) operator (h) None of given.

Q5

The precedence of * is higher than dot operator (.)operator
(c) **True**
(d) False

Q6

Which of the following is the starting index of an array in C++? **(e) 0**

(f) 1

(g) –1

(h) any number

Q7

When a call to function statement is encountered,

(e) **The control transfers to its Prototype**

(f) The control transfers to its definition

(g) Control returns to statement following function call

(h) The compiler stops execution of whole program

Q8

A function must always return value.

(c) True

(d) **False**

Q9

If an array has 100 elements, what is allowable range of subscripts?

(e) 0 – 99

(f) 1 – 99

(g) **0 – 100**

(h) 1 – 100

Q10

If a pointer appears on left hand side of an assignment operator then right side of that assignment operator must be,

(e) Variable name

(f) **Address of variable**

(g) Variable value

(h) Constant

Q11

Editors are used to compile the code.

(c) True

(d) **False**

Q12

Which bitwise operator returns false if both bits are 1?

(e) AND
(f) XOR
(g) NOT
(h) **OR**

Q13

What does !(7) evaluate to in decimal where ! is a NOT operator? **(e) 7**

(f) 8
(g) 9
(h) 10

Q14

Structures cannot be passed as Function Parameters

(c) True
(d) **False**

Q15

When break statement is encountered in a loop body it,

(e) **Transfers the control outside from current loop**
(f) Transfers the control outside from current program (g) Enforces the next iteration of loop (h) Generates compile time error.

Q16

A union is a user-defined data type that contains only _____ from its list of members at a time.

(e) **One object**
(f) **Two objects**
(g) **Three objects**
(h) None of the given options

Q17

Why programming is important? Describe in ONE line. (1)

Q18

Which bitwise operator returns true if both bits are different and returns false if both bits are same?   (1)

Q19

Why we close a file after use?   (2)

Q20

Can you use an assignment operator to assign the value of one C-string to another? (3)

Q21

The statement int Name [2][2]; define a 2x2 array, Write the code which read data from keyboard for this array.   (5)

Q22

Write a program which reads a text file "**PlayersInfo.txt**" residing in the current directory. Open the file **PlayersInfo.txt** in read mode and assign these values to the struct **Player;** assume order of the data in the file to be exactly the same as the order of struct attributes. The struct **Player** has following attributes

 i) Name
 ii) Height
   iii) Age
   iv)
   Score

v)
Game

After reading the file and assigning values to the struct, in the end close the file

PlayersInfo.txt. (10)

Q23

Q2

Write a program to convert upper case letter to lower case letter. (5) Write a program to convert lower case letter to upper case letter. (5) **Q2**

Write a program to convert upper case letter to lower case letter. (5)

Ans:

```cpp
#include <iostream>

using std::cout; using
std::cin; using
std::endl;

#include <stdlib.h>

int main() {     char inputString[100];     char
lowerCase[100];      cout<<"Please enter a string
```

```
(maximum 100 characters):  ";      gets(inputString);
int i=0;      for(i=0; i<strlen(inputString); i++)

    {

        lowerCase[i] = tolower(inputString[i]);

    }
lowerCase[i]='\
0';
puts(lowerCase
);
system("PAUSE
");

    return 0;

}
```

Write a program to convert lower case letter to upper case letter. (5)

Ans:

```
#include <iostream>


using std::cout; using std::cin; using std::endl;
#include <stdlib.h>  int main() {      char
inputString[100];      char upperCase[100];
cout<<"Please enter a string (maximum 100
characters):  ";      gets(inputString);      int i=0;
for(i=0; i<strlen(inputString); i++)

    {

        upperCase[i] = toupper(inputString[i]);

    }
upperCase[i]='\
0';
```

```
puts(upperCas

e);

system("PAUSE

");

    return 0;

}
```

CS201 Azi khan

Question No 1

The statement cout << yptr will show the _____ the yptr

points to. **Select Correct Option**

- ☐ Value
- ☐ <mark>**Memory address**</mark>...................
- ☐ Variable
- ☐ None of the given

Question No 2

In C/C++, by default arguments are passed by _____ to a

function. **Select Correct Option**

- ☐ Reference
- ☐ <mark>**Value**</mark>..................
- ☐ Type
- ☐ Data

Question No 3

What will be the result of the

expression k = ++m; if initially k =

0 and m = 5? **Select Correct**

Option

- [ ] 0
- [ ] 5
- [x] **6**...................
- [ ] 4

Question No 4 char name [] = "Hello World"; in the given statement a memory of _____ characters will be allocated.

Select Correct Option

- [ ] 13
- [ ] 11
- [x] **12**
- [ ] 10

Question No 5

A function's prototype is written _____ the function call.

Select Correct Option

- [ ] After
- [x] **Before**
- [ ] With
- [ ] At the end of

Question No 6

If

int sum = 54;

then the value of the following

statement is sum = sum – 3;

Select Correct Option

- 52
- 50
- **51**
- 57

Question No 7

In C\C++, by default argument are passed by _____ to a function.

Select Correct Option

- Reference
- **Value**
- Size

Question No 8

Correcting the errors from a program is termed as

_____. **Select Correct Option**

- Linking
- Loading
- Executing
- **Debugging**

Question No 9

Declaration of two-dimensional array of integers having 3 rows and 5

columns is following? **Select Correct Option**

- **int arr [3][5];**
- int arr {3}{5};
- int [3],[5]arr;
- int {5},{3 arr};

Question No 10

To get the value stored at a memory address, we use

the_____. **Select Correct Option**

- Referencing operator
- **Dereferencing operator**
- Binary operator
- AND(&&) operator

Question No 11

Which of the following is the correct way to write a compound assignment

operator? **Select Correct Option**

- **x += 4;**
- x + = 4;
- x + = = 4;
- None of the above

Question No 12

We can say that a pointer is a variable that holds the _____

address. **Select Correct Option**

- Byte code

- Source code
- **Memory**
- Complier

Question No 13

What is the use of ios::trunc mode?

Select Correct Option

- To open a file in input mode
- To open a file in output mode
- To truncate an existing file to half
- **To truncate an existing file to zero**

Question No 14

A variable declared within a code block becomes _____ variable for that block.

Select Correct Option

- Static
- Integer
- **Local**
- Global

Question No 15

Which of the following is the correct operator to compare the values of two variables?

Select Correct Option

- :=
- =
- "=
- **= =**

Question No 16

What will be the value of the variable output in the given piece of code?

Double output = 0;

Output – (2+2) * 4 + 2 / (4–2);

Select Correct Option

- 15
- **17**
- 12
- 11

Question No 17

Which of the following function call is "call by reference" for the following prototype?

int add {int*};

Select Correct Option

- **add(&x)**
- add(int x);
- add(x);
- add(*x);

Question No 18

A variable of character data type occupies _____ bytes in

memory. **Select Correct Option**

- **1**
- 2
- 4

☐ 8

Question No 19

According to c++ norms, the first character of a variable name must be an

alphabet or **Select Correct Option**

☐ **Underscore**
☐ Special character
☐ Digit
☐ None of the given options

Question No 20

For breaking complex problems into smaller pieces we use

_____. **Select Correct Option**

☐ If\else
☐ Loops
☐ **Functions**
☐ Break statement

Question No 21

From the following which one is the range of Random number generator

function rand()? **Select Correct Option**

☐ 0 – 32768
☐ 1 – 32768
☐ **0 – 32767**
☐ 1 – 32767

Question No 22

C++ is a _____ language.

- **High Level**
- Low level
- Machine
- Fourth Generation

Question No 23

Whenever some number is added in an array name, it will jump as many _____ as the added number.

Select Correct Option

- **Rows**
- Value
- Column
- None of the given

Question No 24

Array indexes start from _____.

- **0**
- 1
- 2
- 3

Question No 25

_____ will explain the function of a

program. **Select Correct Option**

- **Comments**
- Debugger
- Compiler
- Linker

Question No 26

Which of the following will be the most appropriate data type to store the

value 63.547? **Select Correct Option**

- Integer
- Character
- Short
- **Float**

Question No 27

Loops are _____ structure.

Select Correct Option

- Decision
- Sequential
- **Repetition**
- None of the given options

Question No 28

The sting in the array is terminated by a _____.

Select Correct Option

- Zero
- Nil

- **Null**
-

Question No 29

Remainder operator (%) is a _____ operator.

Select Correct Option

- Conditional
- Logical
- **Arithmetic**
- Relational

Question No 30

< and > both are _____ operations.

Select Correct Option

- Arithmetic
- **Relational**
- Logical
- Mathematical

The End