TEMPLATE
Final Exam: theoretical part (30 points)

(Each question costs one point, total = 30)

1. A ..... is a variable that holds a ..... as its value.

   = pointer / memory address

   ~ address / pointer

   ~ array / memory address

   ~ address / array

   ~ There is no correct answer

2. A ..... is a special character ('\0', ascii code 0) used to indicate the end of the string.

   ~ ascii code

   ~ slash zero

   ~ char

   = null terminator

   ~ There is no correct answer

3. A ..... is an expression that tells the CPU to interrupt the current function and execute another one

   ~ break

   ~ continue

   = function call

   ~ loop

   ~ There is no correct answer

4. A variable is ....., when pointer is .....

   ~ indirect reference / direct reference

   ~ indirect reference / indirect reference

   ~ direct reference / direct reference

   = direct reference / indirect reference

   ~ There is no correct answer

5. Choose the correct syntax for creating array dynamically:

~ int a = new a[n];

~ int &a = new int[a];

= int *a = new int[n];

~ int *new = a int[n];

~ int a = delete a;

6. Choose the FALSE statement about dynamic memory allocation:

~ The operator "delete" doesn't actually delete anything. It simply returns the memory back to operating system

~ Dynamically allocated memory has no scope. It stays allocated until it is explicitly de-allocated or until the program ends.

~ Memory leaks eat up free memory while the program is running, making less memory available.

~ Programs with severe memory leak problems can eat all the available memory, causing the entire machine to run slowly or even crash.

= Dynamically allocated memory is freed automatically when some block or function is exited.

7. Each statement or expression is ended with .....

~ Comma

~ Dot

= Semicolon

~ Question mark

~ There is no correct answer

8. Function that returns the length of c-style string.

~ length()

~ strcat()

~ strcmp()

= strlen()

~ There is no correct answer

9. How many times loop "for(int i=0; i < x; i *= 2)" is executed if x = 100 initially

~ 100

~ 10

~ 7

~ 1

= There is no correct answer

10. How operators &(address-of) and *(dereference operator) are related to each other?

    = They are inverse of each other

    ~ They are same

    ~ They have no relationship

    ~ Operator & used to create a pointer, operator * to delete it

    ~ There is no correct answer

11. How the part of memory is called, which is given when you create variables or arrays dynamically?

    ~ stack

    ~ array

    ~ heat

    = heap

    ~ stamp

12. How to create a pointer to pointer?

    ~ int *ptr;

    = int **ptr;

    ~ int &*ptr;

    ~ int *&ptr;

    ~ There is no correct answer

13. If 'x' is a variable name, how to assign its address to a pointer 'ptr'?

    ~ ptr = x;

    = ptr = &x;

    ~ ptr = *x;

    ~ &ptr = *x;

    ~ There is no correct answer

14. If "stp" is a pointer to array of objects of Student class, then which one is WRONG way to access to Student's members?

    ~ stp[i].id

    ~ (*(stp+i)).id

    ~ (stp+i)->id

    = (stp+i).id

    ~ There is no correct answer

15. If a collection of variables is array, then a collection of arrays is .....

    ~ loop

    ~ string

    = two-dimensional array

    ~ index

    ~ There is no correct answer

16. int x = 5; int *ptr = &x; What will show the following code:
    cout << &ptr << " " << *ptr << " " << &x; and if address of x is A04B88D0.

    ~ 5 A04B88D0 5

    ~ A04B88D0 A04B88D0 5

    ~ 5 A04B88D0 A04B88D0

    ~ A04B88D0 5 A04B88D0

    = There is no correct answer

17. To overload a function what conditions must be followed?

    = Functions must have different parameters(different types or quantity)

    ~ Functions must have different parameter names

    ~ Functions must have different return types

    ~ Functions must have different return values

    ~ There is no correct answer

18. What does the "continue" do inside of a loop?

    = Skips the remainder of loop body and starts the next iteration

    ~ Finishes the program execution

    ~ Doesn't do anything

    ~ Stops the loop and exits it

    ~ There is no correct answer

19. What is false about variable name?

    ~ Can contain letters, digits

    ~ Can contain underscores

    ~ Case sensitive

    = Can start with digits

    ~ There is no correct answer

20. What is the correct syntax to declare a pointer?

    ~ type &pointer_name;

    ~ type pointer_name;

    = type *pointer_name;

    ~ type &*pointer_name;

    ~ There is no correct answer

21. What is the range of signed 1 byte? (1 byte is 8 bits)

    = From -128 to 127

    ~ From -128 to 0

    ~ From 0 to 255

    ~ From 0 to 128

    ~ There is no correct answer

22. What is the value of array 'str', if you read with: cin >> str; and user inputs "hello guys"

    ~ hello guys

    ~ guys hello

    ~ guys

    = hello

    ~ There is no correct answer

23. What operator you use to allocate memory dynamically?

    ~ delete

    = new

    ~ clear

    ~ ptr

    ~ There is no correct answer

24. What program takes the WHOLE source code and converts it to machine code?

    = Compiler

    ~ Interpreter

    ~ Compressor

    ~ Contester

    ~ There is no correct answer

25. What structure works similar to switch structure?

    ~ while

    = nested if/else

    ~ for

    ~ nested for

    ~ There is no correct answer

26. What will be the output of:
    cout << *(*(suit)+3); if: char *suit[] = {"Hearts", "Diamonds", "Clubs", "Spades"};

    = r

    ~ Hearts

    ~ 0xA78BCC04

    ~ S

    ~ Spades

27. What will be the output of: cout << *arr; if int arr[] = {1, 2, 3};

    ~ 3

    = 1

    ~ 2

    ~ It causes an error

    ~ some address

28. What will cause an error from below if: int y, x = 5; const int *ptr = &x;

    = *ptr = 10;

    ~ ptr = &y;

    ~ x = 10;

    ~ y = 10;

    ~ There is no correct answer

29. What will cause an error from below?

    ~ int a[5] = {13, 32, 43, 54, 25};

    = int a[];

    ~ int a[] = {14, 2, 36 , 32, 43};

    ~ int a[2];

    ~ There is no correct answer

30. Which condition is true if x = 1 and y = 0

    ~ if(!(x==1) || y>0)

    ~ if(x! =1 && y==0)

    = if(x%2==1 || y>=1)

    ~ if(x==1 && y==1)

    ~ There is no correct answer

31. What will be an output:

```
int arr[] = { 5,6,7 };
int *a = arr;
a = a + 2;
cout << a[-1] << endl;
```

    ~ 5
    = 6
    ~ 7
    ~ some address
    ~ Compilation error

Final exam: Practical Part (70 points)

1. Write a program that outputs the most suitable datatypes (each on separate line) for the following input: _____

Your program must have proper comment block at the top containing the author, group number, and purpose of the program.

2. Write a program that accepts four integer numbers and one string as an input. The program must show error message and prompt the user to input data again if one of the of the following is true:

- one of the numbers is less than 0 or more than 25

- string is not “YES” /“NO”.

3. Given a sequence of integer numbers. Calculate the sum. (Do NOT use arrays)
Example:
Input:
1 3 5
Output:
9

Example:
Input:
2 4 6 8
Output:
20

4. Write a program that prompts the user to input integer size N of one-dimensional array.
Then, the program must accept N elements as an input and store them in the array.
Finally, sort all the elements in ascending order. (Do NOT use sort() and swap() methods)

5. You given a table that consist of N lines and M rows.
All numbers in the table are natural.
Your task is to print out indexes of rows with sum <= 100.
Sample input:
3 4
10 20 30 10
10 50 60 10
10 10 80 10

Sample output:
1
2

6. Write a program that will filter given string.
The task is to write a function that accepts string as an argument and returns the same string without non-letter symbols.

7. Write a prototype for a function that accepts integer id, strings name, surname, and total number of points.
Write in header file all the functions you implemented in previous tasks.

8. Sorting.
Given N number and sequence of numbers than consist of integers.
Using pointers write a function that accepts pointer to the array and sorts it in descending order.
Output the resulted array. Note:Use pointers
Sample input:
4
23 25 20 18

Sample output:
25 23 20 18

9. Write a program that uses your function to converts first letter in the word to uppercase, others to lowercase.
Use C-style string (without string library).
Sample input:
kAiRat

Sample output:
Kairat

10. In the beginning of Academic Year university has limited number of educational scholarships (grants) provided by government.

Write a program that helps to distribute grants among the applicants.
Your task is to give a list of the students who will be awarded goverment grants.

You are given the list of the applicants with following fields:

1 - ID
2 - Name
3 - Surname
4 - Subject1
5 - Subject2
6 - Subject3
7 - SelectedSubject
8 - SpecialCase (if applicant has "Altyn belgi" and/or "Awardee of Olympiads", then this field is "true", otherwise "false").

Do not forget that all "Holders of Altyn belgi" and "Awardees of Olympiads" will gain grants automatically.
If the total points are same your algorithm have to choose an applicant with higher SelectedSubject (even with SpecialCase)
Assuming that you have only M grants to distribute.
Note: You have to design your program using class.

Started on	Saturday, 7 November 2020, 11:19 AM
State	Finished
Completed on	Saturday, 7 November 2020, 11:53 AM
Time taken	33 mins 34 secs
Marks	22.00/30.00
Grade	**73.33** out of 100.00

Question **1**

Complete

Mark 1.00 out of 1.00

A ..... is a variable that holds a ..... as its value.

Select one:

- a. array / memory address
- b. There is no correct answer
- c. address / pointer
- d. pointer / memory address
- e. address / array

Question **2**

Complete

Mark 0.00 out of 1.00

What is FALSE about passing argument by value?

Select one:

- a. allows to change the value of passed variable
- b. a copy of argument is passed to the function
- c. arguments are never changed by the function being called
- d. arguments passed by value can be literals or expressions
- e. there is no correct answer

Question **3**

Complete

Mark 1.00 out of 1.00

..... are used to hold output for a particular data consumer, such as a monitor, a file, or a printer.

Select one:

- a. string stream
- b. file stream
- c. there is no correct answer
- d. output stream
- e. input stream

Question **4**

Complete

Mark 1.00 out of 1.00

Function that returns the length of array.

Select one:

- a. strcat()
- b. There is no correct answer
- c. strlen()
- d. strcmp()
- e. strcpy()

Question **5**

Complete

Mark 1.00 out of 1.00

Which of the following operators can be used only with integer operands?

Select one:

- a. %
- b. ==
- c. /
- d. *

Question **6**

Complete

Mark 1.00 out of 1.00

What operator you use to free the memory allocated dynamically?

Select one:

- a. clear
- b. delete
- c. new
- d. There is no correct answer
- e. ptr

Question **7**

Complete

Mark 1.00 out of 1.00

In which namespace operators cin and cout are located?

Select one:

- a. There is no correct answer
- b. main
- c. std
- d. iostream
- e. body

Question **8**

Complete

Mark 1.00 out of 1.00

Which class is used to deal with output streams.

Select one:

- a. ostream
- b. estream
- c. ustream
- d. astream
- e. istream

Question **9**

Complete

Mark 1.00 out of 1.00

What is false about comments in programming?

Select one:

- a. It improves program readability
- b. Divided into single-line and multi-line
- c. Used to give values for variables
- d. Used for code documentation
- e. There is no correct answer

Question **10**

Complete

Mark 0.00 out of 1.00

How many times loop "for(int i=1; i<=x; i+=3)" is executed if x = 15

Select one:

- a. 15
- b. 3
- c. 5
- d. 6
- e. 1

Question **11**

Complete

Mark 1.00 out of 1.00

How to create mySwap function to swap two original integers?

Fill the gaps without spacing!

- void mySwap(int& a, int& b) {
- int t = a;
- a = b;
- b = t;
- }

Question **12**

Complete

Mark 1.00 out of 1.00

How many bytes Askhat struct going to take in memory?

```
struct Student {
    int subject1;
    int subject2;
    int subject3;
    int subject4;
    int total() {
        return subject1 + subject2 + subject3 + subject4;
    }
};

int main() {

    Student Askhat;
    Askhat.subject1 = 20;
    Askhat.subject2 = 20;
    Askhat.subject3 = 25;
    Askhat.subject4 = 25;

    cout << Askhat.total() << endl;


    return 0;
}
```

Select one:

- a. 10
- b. 2
- c. 16
- d. 1
- e. 4

Question **13**

Complete

Mark 0.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 0;
    if(i = 1)
            i = 2;
    else
            i = 3;
    cout<<i;
    return 0;
}
```

Select one:

- a. the program outputs 1
- b. the program outputs 2
- c. the program outputs 3
- d. the program outputs 4

Question **14**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 5, j = 4;
    for(i--; i--; i--)
            j--;
    cout<<i + j;
    return 0;
}
```

Select one:

- a. the program outputs 2
- b. the program outputs 1
- c. the program outputs 4
- d. the program enters an infinite loop and does not output anything

Question **15**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int a = -1, b = 1;
    float i = 2.0, j = -2.0;
    cout<< (a > b) + (b > a) + (i > j) + (j > i) + ('z' > 'a');
    return 0;
}
```

Select one:

- a. the program outputs 3
- b. the program outputs 2
- c. the program outputs 4
- d. the program outputs 1

Question **16**

Complete

Mark 1.00 out of 1.00

You have array: int b[2][3] = {{1,2,6}, {3,4,1}} what will be the output of: cout << b[1][2];

Select one:

- a. 4
- b. 1
- c. 2
- d. There is no correct answer
- e. 6

Question **17**

Complete

Mark 1.00 out of 1.00

What are sizes of arrays: char s1[] = "bye-bye"; char s2[] = {'b','y','e','-','b','y','e'};

Select one:

- a. s1 = 7, s2 = 7
- b. There is no correct answer
- c. s1 = 8, s2 = 7
- d. s1 = 8, s2 = 8
- e. s1 = 7, s2 = 8

Question **18**

Complete

Mark 0.00 out of 1.00

If 'x' is a variable name, how to assign its address to a pointer 'ptr'?

Select one:

- a. There is no correct answer
- b. &ptr = *x;
- c. ptr = *x;
- d. ptr = x;
- e. ptr = &x;

Question **19**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include<iostream>
using namespace std;
int f(int a, int b = 3, int c = 3)
{
   cout<< ++a * ++b * --c ;
   return 0;
}
int main()
{
   f(5, 0, 0);
}
```

Select one:

- a. -8
- b. -6
- c. 6
- d. 8

Question **20**

Complete

Mark 1.00 out of 1.00

What will be output by executing the following code?

```
#include <iostream>
using namespace std;

int main() {

    double arr[] = {1.2, 2.3, 3.4};

    double *pa;
    pa = arr;

    *pa = 5.5;
    *(pa + 1) = *(pa + 2);
    cout << arr[0] <<" "<< arr[1] <<" "<< arr[2] << endl;

    return 0;
}
```

Select one:

- 5.5 2.3 2.3
- 1.2 3.4 2.3
- 5.5 3.4 3.4
- 5.5 2.3 3.4
- 1.2 2.3 3.4

Question **21**

Complete

Mark 1.00 out of 1.00

What will be the output if: int x[] = {7, 5, 6}; cout << *(x+2);

Select one:

- a. 6
- b. 7
- c. Will cause an error
- d. There is no correct answer
- e. 5

Question **22**

Complete

Mark 1.00 out of 1.00

int x = 5; int *ptr = &x; What will show the following code: cout << ptr << " " << *&ptr << " " << &*ptr; and if address of x is A04B88D0.

Select one:

- a. A04B88D0 A04B88D0 5
- b. A04B88D0 5 5
- c. There is no correct answer
- d. 5 A04B88D0 A04B88D0
- e. A04B88D0 A04B88D0 A04B88D0

Question **23**

Complete

Mark 1.00 out of 1.00

int x = 5; int *ptr = &x; What will show the following code: cout << ptr << " " << *ptr << " " << &x; and if address of x is A04B88D0.

Select one:

- a. A04B88D0 A04B88D0 5
- b. 5 A04B88D0 A04B88D0
- c. 5 A04B88D0 5
- d. A04B88D0 5 A04B88D0
- e. There is no correct answer

Question **24**

Complete

Mark 0.00 out of 1.00

What is FALSE about memory allocation.

Select one:

- a. Static memory allocation happens for static and global variables
- b. With the dynamic memory allocation the running program can request memory any time it needs
- c. Automatic memory allocation happens for function parameters and local variables
- d. In automatic memory allocation - memory is allocated when some block is entered and freed when the block is exited
- e. With the dynamic memory allocation the memory is taken from limited stack memory

Question **25**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
void f() {
}
int main() {
    int i;
    i = f();
    cout<<i;
    return 0;
}
```

Select one:

- a. the program outpust 1
- b. the program outpust 0
- c. compilation fails
- d. the program outpust null

Question **26**

Complete

Mark 0.00 out of 1.00

What will be the output of: cout << *arr; if int arr[] = {1, 2, 3};

Select one:

- a. 2
- b. 1
- c. 3
- d. It causes an error
- e. There is no correct answer

Question **27**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main()
{
   int i;
   const char *arr[] = {"C", "C++", "Java", "VBA"};
   const char *(*ptr)[4] = &arr;
   cout << ++(*ptr)[2];
   return 0;
}
```

Select one:

- a. ava
- b. BA
- c. Jav
- d. ++

Question **28**

Complete

Mark 1.00 out of 1.00

What will cause an error from below?

Select one:

- a. There is no correct answer
- b. char a[] = {'a', 'r', 't'};
- c. char a[] = "hello";
- d. int a[4] = {1, 2, 3, 4};
- e. int x[12];

Question **29**

Complete

Mark 0.00 out of 1.00

Which of the following is illegal?

Select one:

- a.
```
string s, *sp = 0;
```
- b.
```
float i; float* dp = &i;
```
- c.
```
int *ip;
```
- d.
```
int i; double* dp = &i;
```

Question **30**

Complete

Mark 0.00 out of 1.00

What will be the output of: cout << suit[1][2]; if: char *suit[] = {"Hearts", "Diamonds", "Clubs", "Spades"};

Select one:

- a. Spades
- b. a
- c. e
- d. Diamonds
- e. Hearts

◄ Endterm Quiz for SE and CS

Jump to...

Bonus ►

Started on	Saturday, 7 November 2020, 11:02 AM
State	Finished
Completed on	Saturday, 7 November 2020, 11:46 AM
Time taken	43 mins 51 secs
Marks	27.00/30.00
Grade	**90.00** out of 100.00

Question **1**

Complete

Mark 1.00 out of 1.00

What will be the output of: cout << *arr; if int arr[] = {1, 2, 3};

Select one:

- a. 3
- b. It causes an error
- c. There is no correct answer
- d. 2
- e. 1

Question **2**

Complete

Mark 0.00 out of 1.00

What is the value of the **X** variable at the end of the following snippet?

```
int X = 1;

X = X + 2 * X;
X = X / 2 * X;
X = X + 2 + X;
```

Select one:

- a. 2
- b. 1
- c. 8
- d. 4

Question **3**

Complete

Mark 1.00 out of 1.00

In which namespace operators cin and cout are located?

Select one:

- a. main
- b. std
- c. iostream
- d. body
- e. There is no correct answer

Question **4**

Complete

Mark 1.00 out of 1.00

How many times loop "for(int i=10; i>x; i-=2)" is executed if x = -1

Select one:

- a. 5
- b. 2
- c. 6
- d. There is no correct answer
- e. 10

Question **5**

Complete

Mark 1.00 out of 1.00

What library you should include to use cin and cout?

Select one:

- a. cstring
- b. iostream
- c. inputStream
- d. There is no correct answer
- e. cstdlib

Question **6**

Complete

Mark 1.00 out of 1.00

What is the value of the **X** variable at the end of the following snippet?

```
int X;

X = 'b' - 'a' * ('\' / '\');
```

Select one:

- a. the snippet is invalid and will cause a compilation error
- b. 0
- c. 1
- d. 2

Question **7**

Complete

Mark 1.00 out of 1.00

What is the definition of function.

Select one:

- a. A function is a comma separated list of arguments
- b. There is no correct answer
- c. A function is a data passed to called function
- d. A function is a data that is returned to the caller function
- e. A function is a reusable sequence of statements designed to do a particular job.

Question **8**

Complete

Mark 1.00 out of 1.00

How in C++ logical OR is written?

Select one:

- a. %%
- b. !
- c. ||
- d. There is no correct answer
- e. &&

Question **9**

Complete

Mark 1.00 out of 1.00

What program takes the WHOLE source code and converts it to machine code?

Select one:

- a. Compiler
- b. There is no correct answer
- c. Contester
- d. Interpreter
- e. Compressor

Question **10**

Complete

Mark 0.00 out of 1.00

What is false about arrays?

Select one:

- a. There is no correct answer
- b. Array has no order of elements
- c. Array has type
- d. Array has size
- e. Array has name

Question **11**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 16, j = 6;
    while(j > 0) {
            i /= 2;
            j -= i / 2;
    }
    cout<<i + j;
    return 0;
}
```

Select one:

- a. the program enters an infinite loop and does not output anything
- b. the program outputs 2
- c. the program outputs 4
- d. the program outputs 1

Question **12**

Complete

Mark 1.00 out of 1.00

How many bytes Askhat struct going to take in memory?

```
struct Student {
    int subject1;
    int subject2;
    int subject3;
    int subject4;
    int total() {
        return subject1 + subject2 + subject3 + subject4;
    }
};

int main() {
    Student Askhat;
    Askhat.subject1 = 20;
    Askhat.subject2 = 20;
    Askhat.subject3 = 25;
    Askhat.subject4 = 25;

    cout << Askhat.total() << endl;


    return 0;
}
```

Select one:

- a. 10
- b. 1
- c. 2
- d. 16
- e. 4

Question **13**

Complete

Mark 1.00 out of 1.00

You have array: int b[2][3] = {{1,2,6}, {3,4,1}} what will be the output of: cout << b[0][0];

Select one:

- a. 1
- b. 2
- c. 6
- d. 4
- e. There is no correct answer

Question **14**

Complete

Mark 1.00 out of 1.00

What is the value of p?

```
#include <iostream>
 using namespace std;
 int main()
 {
     int p;
     bool a = true;
     bool b = false;
     int x = 10;
     int y = 5;
     p = ((x + y) + (a + b));
     cout << p;
 }
```

Select one:

- a. None of the mentioned
- b. 0
- c. 16
- d. 15

Question **15**

Complete

Mark 1.00 out of 1.00

What are values of array: int x[5] = {0};

Select one:

- a. 0 1 2 3 4
- b. There is no correct answer
- c. 0 0 0 0 0
- d. 5 5 5 5 5
- e. 1 1 1 1 1

Question **16**

Complete

Mark 1.00 out of 1.00

How operators &(address-of) and *(dereference operator) are related to each other?

Select one:

- a. They have no relationship
- b. They are inverse of each other
- c. They are same
- d. Operator & used to create a pointer, operator * to delete it
- e. There is no correct answer

Question **17**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int fun(int t) {
    return ++t;
}
int main() {
    int arr[] = { 8, 4, 2, 1 };
    cout<<fun(arr[3]) + arr[2];
    return 0;
}
```

Select one:

- a. the program outputs 8
- b. the program outputs 2
- c. the program outputs 1
- d. the program outputs 4

Question **18**

Complete

Mark 1.00 out of 1.00

Suppose we have the following struct definitions and variable declarations in main for the below questions:

```
#include <iostream>
using namespace std;

struct Student{
    int ID;
    int year;
};

struct Course{
    char dept[4];
    int number;
    int teacherID;
    Student stds[25];
};

int main() {
    Course introToProgramming;
    ...
    return 0;
}
```

What is the proper syntax for setting the year of the 10th student to 2?

Select one:

- stds.year[9] = 2;
- introToProgramming.stds.year[9] = 2;
- stds[9].year = 2;
- introToProgramming.stds[9] = year(2);
- introToProgramming.stds[9].year = 2;

Question **19**

Complete

Mark 1.00 out of 1.00

How to create a pointer to pointer?

Select one:

- a. int &*ptr;
- b. int *ptr;
- c. int **ptr;
- d. int *&ptr;
- e. There is no correct answer

Question **20**

Complete

Mark 1.00 out of 1.00

what is the output of the code?

```
struct Car {
    double engineVolume;
    int productionYear;
    bool isElectric;
};


int main() {

    Car mercedes;
    mercedes.engineVolume = 4.5;
    mercedes.productionYear = 2002;
    mercedes.isElectric = false;
    Car* copyMercedes = &mercedes;

    copyMercedes->engineVolume = 2.4;

    cout << mercedes.engineVolume << endl;
    return 0;
}
```

Select one:

- a. 2002
- b. 2.4
- c. 0
- d. 4.5
- e. false

Question **21**

Complete

Mark 1.00 out of 1.00

What will be the output if: int x[] = {7, 5, 6}; cout << *(x+2);

Select one:

- a. Will cause an error
- b. 5
- c. 6
- d. 7
- e. There is no correct answer

Question **22**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 1, j = i + 2 * i;
    switch(j) {
            default: j = 0;
            case  1: j++; break;
            case  2: j--;
            case  0: j++; break;
    }
    cout<<++j;
    return 0;
}
```

Select one:

- a. the program outputs 0
- b. the program outputs 2
- c. the program outputs 4
- d. the program outputs 1

Question **23**

Complete

Mark 1.00 out of 1.00

What is the value of null pointer?

Select one:

- a. It is pointing to itself
- b. It has no value, it is not pointing to anything
- c. Some memory address
- d. There is no correct answer
- e. Some garbage memory address

Question **24**

Complete

Mark 0.00 out of 1.00

What are sizes of arrays: char s1[] = "bye-bye"; char s2[] = {'b','y','e','-','b','y','e'};

Select one:

- a. s1 = 7, s2 = 7
- b. s1 = 7, s2 = 8
- c. There is no correct answer
- d. s1 = 8, s2 = 8
- e. s1 = 8, s2 = 7

Question **25**

Complete

Mark 1.00 out of 1.00

What will be the output of: cout << *(*(suit)+3); if: char *suit[] = {"Hearts", "Diamonds", "Clubs", "Spades"};

Select one:

- a. r
- b. S
- c. a
- d. B
- e. C

Question **26**

Complete

Mark 1.00 out of 1.00

What is size of an array - int n[] = {3, 5, 6, 3, 7};

Select one:

- a. There is no correct answer
- b. 5
- c. 4
- d. 6
- e. 0

Question **27**

Complete

Mark 1.00 out of 1.00

According to rules of structure member alignment what is the most optimal way to create structure?

Select one:

a.
```
struct Student {


    char grade;
    long long int number;
    double id;
    int room;


};
```

b.
```
struct Student {
    long long int number;
    double id;
    int room;
    char grade;

};
```

c.
```
struct Student {


    char grade;
    double id;
    int room;
    long long int number;

};
```

d.
```
struct Student {


    char grade;
    double id;
    long long int number;
    int room;

};
```

Question **28**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
```

```
int main ()
{
   cout << (1 > 2 ? 1 : 2) << ('a' > 'z' ? 'a' : 'z') << endl;
   return 0;
}
```

Select one:

- a. compilation error
- b. the program outputs 2z
- c. the program outputs 2a
- d. the program outputs 1z

Question **29**

Complete

Mark 1.00 out of 1.00

Which class is used to deal with output streams.

Select one:

- a. istream
- b. ostream
- c. estream
- d. ustream
- e. astream

Question **30**

Complete

Mark 1.00 out of 1.00

What will be the output of: cout << suit[3]; if: char *suit[] = {"Hearts", "Diamonds", "Clubs", "Spades"};

Select one:

- a. Spades
- b. some address
- c. NULL
- d. There is no correct answer
- e. Clubs

◄ Final Exam Practice (Example tasks) Jump to... Bonus ►

Question **1**

Complete

Mark 1.00 out of 1.00

How the part of memory is called, which is given when you create variables or arrays dynamically?

Select one:

- a. array
- b. heat
- c. stamp
- d. stack
- e. heap

Question **2**

Complete

Mark 0.00 out of 1.00

What is NOT an advantage of using functions?

Select one:

- a. There is no correct answer
- b. Reusability of a code
- c. High speed of execution
- d. Good organization and management of code
- e. Extensibility

Question **3**

Complete

Mark 1.00 out of 1.00

Choose the correct syntax for creating variable dynamically:

Select one:

- a. int *a;
- b. int a = new int;
- c. int a;
- d. int *a = new a;
- e. int *a = new int;

Question **4**

Complete

Mark 1.00 out of 1.00

What will be the sum after executing the following part of the code?

```
int twoDim[3][4] =
   {{1,2,3,4},
   {11,22,33,44},
   {111,222,333,444}};
int sum = 0;
for (int i =0; i<3; i++){
   sum+= twoDim[i][3-i];
}
```

Select one:

- a. 492
- b. 259
- c. 479
- d. 123
- e. 136
- f. 356

Question **5**

Complete

Mark 1.00 out of 1.00

What is false about arrays?

Select one:

- a. Array has type
- b. Array has size
- c. Array has no order of elements
- d. Array has name
- e. There is no correct answer

Question **6**

Complete

Mark 1.00 out of 1.00

What is a program (application)?

Select one:

- a. It is a set of instructions that tells the computer what to do
- b. It is a person who writes the code in some programming language
- c. It is a hardware that is used to calculate some expression
- d. It is a set of memory cells
- e. There is no correct answer

Question **7**

Complete

Mark 1.00 out of 1.00

What is FALSE about functions.

Select one:

- a. There is no correct answer
- b. The solution of sub-problems(functions) are combined to give a solution to the original problem
- c. Writing whole code in one place, without dividing
- d. It allows to construct a program from smaller pieces or components
- e. Breaking down a problem into parts

Question **8**

Complete

Mark 1.00 out of 1.00

What is the value of null pointer?

Select one:

- a. Some garbage memory address
- b. Some memory address
- c. It is pointing to itself
- d. There is no correct answer
- e. It has no value, it is not pointing to anything

Question **9**

Complete

Mark 1.00 out of 1.00

Show right syntax of functions

Select one:

- a. There is no correct answer
- b. return_type function_name(parameters){...}
- c. function_name parameter(return_type){...}
- d. parameter return_type(arguments){...}
- e. argument function_name(return_type){...}

Question **10**

Complete

Mark 1.00 out of 1.00

What is the value of the **X** variable at the end of the following snippet?

```
int X = 1;

X = X * X + 2;
X = X / X * 2;
X = X + 2 + X;
```

Select one:

- a. 2
- b. 8
- c. 6
- d. 4

Question **11**

Complete

Mark 0.00 out of 1.00

int x = 5; int *ptr = &x; What will show the following code: cout << &ptr << " " << *ptr << " " << &x; and if address of x is A04B88D0.

Select one:

- a. 5 A04B88D0 A04B88D0
- b. 5 A04B88D0 5
- c. There is no correct answer
- d. A04B88D0 A04B88D0 5
- e. A04B88D0 5 A04B88D0

Question **12**

Complete

Mark 1.00 out of 1.00

What are sizes of arrays: char s1[] = "bye-bye"; char s2[] = {'b','y','e','-','b','y','e'};

Select one:

- a. s1 = 7, s2 = 8
- b. s1 = 8, s2 = 8
- c. s1 = 7, s2 = 7
- d. s1 = 8, s2 = 7
- e. There is no correct answer

Question **13**

Complete

Mark 0.00 out of 1.00

Consider you have function: int plusOne(int x){return x+1;}, and *ptr is a pointer to your function, which one is the correct way of calling your function using a pointer:

Select one:

- a. ptr(5)
- b. ptr[5]
- c. There is no correct answer
- d. ptr 5
- e. *ptr(5)

Question **14**

Complete

Mark 1.00 out of 1.00

What is the correct syntax to declare a pointer?

Select one:

- a. There is no correct answer
- b. type *pointer_name;
- c. type &*pointer_name;
- d. type &pointer_name;
- e. type pointer_name;

Question **15**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program??

```
#include <iostream>
using namespace std;

int main() {
   int a = 100, b = 200;
   int *p = &a, *q = &b;
   p = q;
   cout<<*p;
   return 0;
}
```

Select one:

- a. 400
- b. 200
- c. 300
- d. 100

Question **16**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i, t[4];
    for(i = 3; i; i--) {
            t[i] = i - 1;
            t[t[i]] = t[i];
    }
    cout<<t[0];
    return 0;
}
```

Select one:

- a. the program outputs 1
- b. the program outputs 0
- c. the program outputs 4
- d. the program outputs 2

Question **17**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    char t[] = { 'a', 'z', 'B', 'Z', '0' };
    cout<< t[t[1] - t[0] - t[3] + t[2] + 3] - t[4];
    return 0;
}
```

Select one:

- a. the program outputs 4
- b. the program outputs 0
- c. the program outputs 2
- d. the program outputs 1

Question **18**

Complete

Mark 1.00 out of 1.00

What will be output by executing the following code?

```
#include <iostream>
using namespace std;

int main() {

    double arr[] = {1.2, 2.3, 3.4};

    double *pa;
    pa = arr;

    *pa = 5.5;
    *(pa + 1) = *(pa + 2);
    cout << arr[0] <<" "<< arr[1] <<" "<< arr[2] << endl;

    return 0;
}
```

Select one:

- 5.5 2.3 2.3
- 5.5 2.3 3.4
- 1.2 2.3 3.4
- 5.5 3.4 3.4
- 1.2 3.4 2.3

Question **19**

Complete

Mark 1.00 out of 1.00

Choose the FALSE statement about dynamic memory allocation:

Select one:

- a. Dynamically allocated memory has no scope. It stays allocated until it is explicitly de-allocated or until the program ends.
- b. Programs with severe memory leak problems can eat all the available memory, causing the entire machine to run slowly or even crash.
- c. Dynamically allocated memory is freed automatically when some block or function is exited.
- d. Memory leaks eat up free memory while the program is running, making less memory available.
- e. The operator "delete" doesn't actually delete anything. It simply returns the memory back to operating system

Question **20**

Complete

Mark 1.00 out of 1.00

How to create a pointer to pointer?

Select one:

- a. int **ptr;
- b. There is no correct answer
- c. int *&ptr;
- d. int &*ptr;
- e. int *ptr;

Question **21**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 1, j = 0, k;
    k = (j % i) + (i && j) + (!i || !j);
    cout<<k;
    return 0;
}
```

Select one:

- a. the program outputs 4
- b. the program outputs 2
- c. the program outputs 0
- d. the program outputs 1

Question **22**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include<iostream>
using namespace std;
int f(int a, int b = 3, int c = 3)
{
   cout<< ++a * ++b * --c ;
   return 0;
}
int main()
{
   f(5, 0, 0);
}
```

Select one:

- a. 6
- b. 8
- c. -8
- d. -6

Question **23**

Complete

Mark 1.00 out of 1.00

What is size of a given array: char s[] = "hello";

Select one:

- a. 6
- b. 0
- c. There is no correct answer
- d. 5
- e. 4

Question **24**

Complete

Mark 1.00 out of 1.00

What is the value of null pointer?

Select one:

- a. It is pointing to itself
- b. Some memory address
- c. Some garbage memory address
- d. It has no value, it is not pointing to anything
- e. There is no correct answer

Question **25**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int f(int i) {
   ++i;
    return i;
}
int main() {
    int i = 1;
    i = f(i);
    cout<<i;
    return 0;
}
```

Select one:

- a. the compilation fails
- b. the program outputs 2
- c. the program outputs an unpredictable value
- d. the program outputs 1

Question **26**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    char a = 'A', *b = &a, **c = &b;
    **c = a + (a == *b);
    cout<<a;
    return 0;
}
```

Select one:

- a. the program outputs C
- b. the program outputs NULL
- c. the program outputs A
- d. the program outputs B

Question **27**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int f(int t[][2]) {
    return t[0][0] + t[0][1];
}
int main() {
    int i,t[2][2] = { {0,4},{4,2} };
    i = f(t);
    cout<<i;
    return 0;
}
```

Select one:

- a. the program outputs 2
- b. the program outputs 4
- c. the program outputs 8
- d. the program outputs 1

Question **28**

Complete

Mark 0.00 out of 1.00

What expression is TRUE if 'arr' is a an array name?

Select one:

- a. arr = arr[0]
- b. &arr = *arr
- c. arr = &arr[0]
- d. *arr = &arr[0]
- e. There is no correct answer

Question **29**

Complete

Mark 0.00 out of 1.00

What will be the output of: cout << **suit; if: char *suit[] = {"Hearts", "Diamonds", "Clubs", "Spades"};

Select one:

- a. Some address
- b. Hearts
- c. There is no correct answer
- d. HeartsDiamondsClubsSpades
- e. H

Question **30**

Complete

Mark 0.00 out of 1.00

What will cause an error from below if: int y, x = 5; int *const ptr = &x;

Select one:

- a. y = 10;
- b. There is no correct answer
- c. ptr = &y;
- d. x = 10;
- e. *ptr = 10;

◄ Final Exam Practice (Example tasks) Jump to... Bonus ►

Started on	Saturday, 3 October 2020, 12:02 PM
State	Finished
Completed on	Saturday, 3 October 2020, 12:49 PM
Time taken	46 mins 19 secs
Marks	19.00/30.00
Grade	**63.33** out of 100.00

Question **1**

Correct

Mark 1.00 out of 1.00

Values of type ___ are used to hold values defined by the ASCII character set

Select one:

- a. bool
- b. char ✔
- c. long
- d. int
- e. double

Your answer is correct.

The correct answer is: char

Question **2**

Correct

Mark 1.00 out of 1.00

Which of the following is not a variable type in C++?

Select one:

- a. unsigned int
- b. bool
- c. char
- d. short int
- e. real ✔

Your answer is correct.

The correct answer is: real

Question **3**

Incorrect

Mark 0.00 out of 1.00

Describe std::cout.

Select one:

- a. There is no correct answer
- b. Standard input stream to keyboard usually
- c. Standard input stream to computer screen usually
- d. Standard output stream to keyboard usually ✖
- e. Standard output stream to computer screen usually

The correct answer is: Standard output stream to computer screen usually

Question **4**

Correct

Mark 1.00 out of 1.00

A(n) ____ is a named location in memory that is used to hold a value that may be modified by the program.

Select one:

- a. if statement
- b. Incrementation
- c. variable ✔
- d. while loop
- e. loop

Your answer is correct.

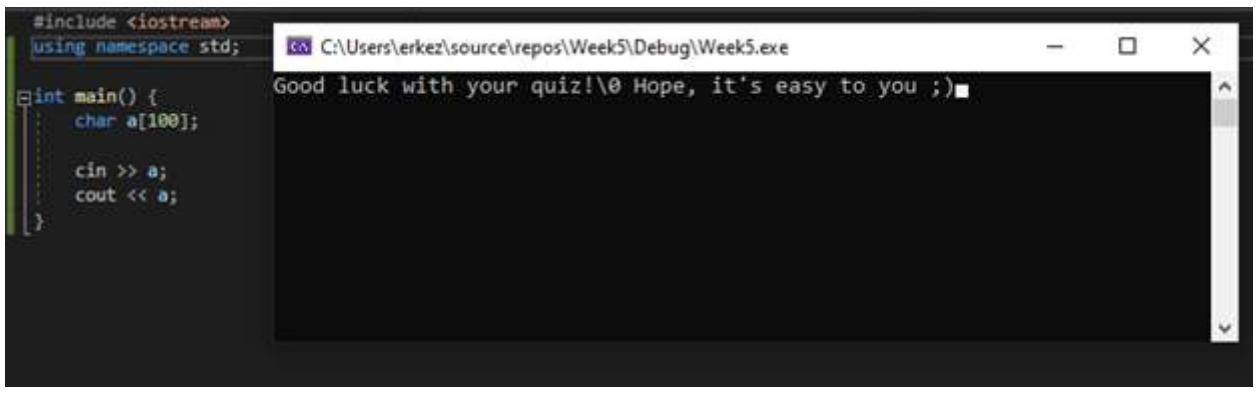
The correct answer is: variable

Question **5**

Incorrect

Mark 0.00 out of 1.00

What is the output of the following code if your **input** is "Good luck with your quiz!\0 Hope, it's easy to you ;)":



Select one:

- A. Good luck with your quiz! ✖
- B. Good
- C. Good luck with your quiz! Hope, it's easy to you ;)
- D. Good luck with your quiz!\0 Hope, it's easy to you ;)

Your answer is incorrect.

The correct answer is: Good

Question **6**

Incorrect

Mark 0.00 out of 1.00

What is the range of unsigned 1 byte? (1 byte is 8 bits)

Select one:

- a. From -128 to 0
- b. From 0 to 255
- c. From -128 to 127 ✖
- d. From 0 to 127
- e. There is no correct answer

The correct answer is: From 0 to 255

Question **7**

Incorrect

Mark 0.00 out of 1.00

There is no difference between below two statements:

int a = 10;

int a(10);

Select one:

- True
- False ✖

The correct answer is 'True'.

Question **8**

Correct

Mark 1.00 out of 1.00

What is the size of short in bytes?

Select one:

- a. 4
- b. 1
- c. 2 ✔
- d. 8
- e. There is no correct answer

The correct answer is: 2

Question **9**

Correct

Mark 1.00 out of 1.00

Which of the following is not a logical operator?

Select one:

- a. !
- b. | |
- c. &&
- d. != ✔

Your answer is correct.

The correct answer is: !=

Question **10**

Incorrect

Mark 0.00 out of 1.00

Which of the following declarations is valid?

Select one:

a.
```
int long;
```

b.
```
int int;
```

c.
```
int float;
```

✖

d.
```
int longint;
```

The correct answer is:
```
int longint;
```

Question **11**

Correct

Mark 1.00 out of 1.00

```
int arr[5] = {3, 6};
cout << arr[2] << endl;
```

What is the output?

Select one:

a. 3

b. Garbage value

c. 4

d. 0 ✔

e. 5

Your answer is correct.

The correct answer is: 0

Question **12**

Incorrect

Mark 0.00 out of 1.00

Initial array: 3 4 2 7 6.

What is the order of elements of array after first pass of Bubble sort?

Select one:

a. 2 3 4 6 7 ✖

b. 4 3 2 6 7

c. 3 2 4 6 7

d. 3 4 2 6 7

e. 4 3 2 6 7 2

Your answer is incorrect.

The correct answer is: 3 2 4 6 7

Question **13**

Correct

Mark 1.00 out of 1.00

What will be the output of the following code?

```
#include<iostream>

using namespace std;
main() {
   int r, x = 2;

   float y = 5;

   r = y%x;
   cout<<r;
}
```

Select one:

- a. 0
- b. There will be an error ✔
- c. 1
- d. 2

Your answer is correct.

The correct answer is: There will be an error

Question **14**

Correct

Mark 1.00 out of 1.00

What is the value of the **X** variable at the end of the following snippet?

```
int X = 1, Y = 2, Z;

Z = X / Y * --X * Y++;
```

Select one:

- a. 4
- b. 0 ✔
- c. 2
- d. 1

The correct answer is: 0

Question **15**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  for(int n = 0; n < 5; n++){
    int sum = 0;
    for(int m = n; m > 1; m--){
      sum += m;
    }
    cout << sum << " ";
  }
}
```

Select one:

- 0 0 2 5 9 ✔
- 0 1 1 1 1
- 0 1 2 3 4
- 0 0 2 7 16
- 1 2 3 5 8

Your answer is correct.

The correct answer is: 0 0 2 5 9

Question **16**

Incorrect

Mark 0.00 out of 1.00

How many stars will be output by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  int x = 3;
  if(x > 0) {
    while(x < 5){
      x++;
      cout << "*";
    }
  } else {
    cout << "*";
  }
}
```

Select one:

- 4
- 2
- 0
- 5
- 3
- this will loop infinitely ✖

Your answer is incorrect.

The correct answer is: 2

Question **17**

Correct

Mark 1.00 out of 1.00

Your program is expected to find out if a person is suitable for military service (age from 18 to 45 for men and from 18 to 35 for women). Please, provide a proper condition (variables that are used: ***int age*** that stores an age value, ***char gender*** that takes 2 possible values ***'M'*** or ***'W'***)

Select one:

- A.
  if((18 < age < 45 and gender == 'M') or (18 < age < 35 and gender == 'W'))
- B.
  if((age > 18 && age < 45 && gender == 'M') || (age > 18 && age < 35 && gender == 'W')) ✔
- C.
  if((gender == 'M' && age < 45 || age > 18) && (gender == 'W' && age < 35 || age > 18))
- D.
  if((age > 18 && age < 45 && gender == 'M') && (age > 18 && age < 35 && gender == 'W'))

Your answer is correct.

The correct answer is:
if((age > 18 && age < 45 && gender == 'M') || (age > 18 && age < 35 && gender == 'W'))

Question **18**

Incorrect

Mark 0.00 out of 1.00

How many stars will the following code print to the console window?

```
#include <iostream>
using namespace std;

int main() {
  for(int n = 0; n < 5; n++){
    for(int m = 0; m < n; m++){
      cout << "*";
    }
  }
}
```

Select one:

- 0
- 25 ✖
- 5
- this will loop infinitely
- 11
- 10

Your answer is incorrect.

The correct answer is: 10

Question **19**

Incorrect

Mark 0.00 out of 1.00

What is the output of this code?

```
#include<iostream>

int main() {

    int a = 100;
    {
        int a = 150;
        {
            int a = 200;
            std::cout << a << std::endl;
        }
        std::cout << a << std::endl;
    }
    std::cout << a << std::endl;

}
```

Select one:

- a. 200
  200
  200
- b. 100
  100
  100
- c. Compilation Error ✖
- d. 200
  150
  100

Your answer is incorrect.

The correct answer is: 200
150
100

Question **20**

Incorrect

Mark 0.00 out of 1.00

What will cause an error from below?

Select one:

- a. char a[] = "hello"; ✖
- b. int x[12];
- c. int a[4] = {1, 2, 3, 4};
- d. There is no correct answer
- e. char a[] = {'a', 'r', 't'};

The correct answer is: There is no correct answer

Question **21**

Correct

Mark 1.00 out of 1.00

What is size of a given array: char s[] = "hello";

Select one:

- a. 6 ✔
- b. 0
- c. 5
- d. There is no correct answer
- e. 4

The correct answer is: 6

Question **22**

Correct

Mark 1.00 out of 1.00

What will be the output of the following part of the code?

```
int mat[3];
int i, j;
int num = 0;
for (i = 0; i < 3; i++) {
   for (j = 2; j >= 0; j--) {
      mat[i] = j;
   }
   cout << mat[num] << " ";
   num++;
}
```

Select one:

- a. 0 0 0 ✔
- b. 1 2 3
- c. There will be error
- d. 3 3 3
- e. 3 2 1

Your answer is correct.

The correct answer is: 0 0 0

Question **23**

Incorrect

Mark 0.00 out of 1.00

Which condition is true if x = 10 and y = -2

Select one:

- a. There is no correct answer
- b. if(x > 10 || y%2!=0)
- c. if(x >= 10 || y%2==1)
- d. if(x >= 10 && y%2==1) ✖
- e. if(x >10 && y%2!=0)

The correct answer is: if(x >= 10 || y%2==1)

Question **24**

Correct

Mark 1.00 out of 1.00

What is the output of the following code?

```
#include<iostream>

using namespace std;

int main() {

    int a = 3;
    double b = 5.0;

    std::cout << sizeof(a/b);

}
```

Select one:

- a. 8 ✔
- b. 4
- c. 0.6
- d. Compilation Error

Your answer is correct.

The correct answer is: 8

Question **25**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i, t[4];
    for(i = 3; i; i--) {
            t[i] = i - 1;
            t[t[i]] = t[i];
    }
    cout<<t[0];
    return 0;
}
```

Select one:

- a. the program outputs 2
- b. the program outputs 4
- c. the program outputs 1
- d. the program outputs 0 ✔

The correct answer is: the program outputs 0

Question **26**

Correct

Mark 1.00 out of 1.00

What values are stored in the array x after running the following code?

```
#include <iostream>
using namespace std;

int main() {
  int x[] = {5, 4, -3, 15, 13, 50};

  x[3] = x[0] + x[2];
  x[5] = x[x[1]];
  x[4] = 75 + x[4];

  for(int i = 0; i < 6; i++){
    cout << x[i] << " ";
  }
}
```

Select one:

- 5 4 -3 2 88 13 ✔
- 5 4 -3 15 13 50
- 5 4 2 88 13 50
- exited, segmentation fault
- 5 4 9 2 15 90

Your answer is correct.

The correct answer is: 5 4 -3 2 88 13

Question **27**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
     float x = 3.0, y = 2.0;
     int i = 1, j = 2;
     x = (int)x / y + (float)i / j;
     cout<<x;
     return 0;
 }
```

Select one:

- a. the program outputs 2.000000 ✔
- b. the program outputs 0.000000
- c. the program outputs 3.000000
- d. the program outputs 1.000000

The correct answer is: the program outputs 2.000000

Question **28**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 16, j = 8;
    do {
            i /= 2;
            j -= i / 2;
    } while(j > 0);
    cout<<i + j;
    return 0;
}
```

Select one:

- a. the program outputs 1
- b. the program enters an infinite loop and does not output anything ✔
- c. the program outputs 4
- d. the program outputs 2

The correct answer is: the program enters an infinite loop and does not output anything

Question **29**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 1, j = i + 2 * i;
    switch(j - i) {
            case  1: j++;
            case  2: j--;
            case  0: j++; break;
            default: j = 0;
    }
    cout<< ++j;
    return 0;
}
```

Select one:

- a. the program outputs 0
- b. the program outputs 1
- c. the program outputs 4 ✔
- d. the program outputs 2

The correct answer is: the program outputs 4

Question **30**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 1, j = i + 2 * i;
    switch(j) {
            default: j = 0;
            case  1: j++; break;
            case  2: j--;
            case  0: j++; break;
    }
    cout<<++j;
    return 0;
}
```

Select one:

- a. the program outputs 1
- b. the program outputs 2 ✔
- c. the program outputs 4
- d. the program outputs 0

The correct answer is: the program outputs 2

◄ Lecture 5 - Arrays (Multi-Dimension)

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Assignment 4 ►

Started on	Saturday, 3 October 2020, 12:03 PM
State	Finished
Completed on	Saturday, 3 October 2020, 12:48 PM
Time taken	45 mins 5 secs
Marks	30.00/30.00
Grade	**100.00** out of 100.00

Question **1**

Correct

Mark 1.00 out of 1.00

What program takes the WHOLE source code and converts it to machine code?

Select one:

- a. Compiler ✔
- b. Contester
- c. Compressor
- d. There is no correct answer
- e. Interpreter

The correct answer is: Compiler

Question **2**

Correct

Mark 1.00 out of 1.00

What is the value of a “int a = 13%5;” expression?

Select one:

- A. 3 ✔
- B. 6
- C. 2.6
- D. error

Your answer is correct.

The correct answer is: 3

Question **3**

Correct

Mark 1.00 out of 1.00

What is definition of loops?

Select one:

- a. Actions and their order
- b. There is no correct answer
- c. Place in memory to hold some data
- d. Informal language to develop structures
- e. Statements executed repeatedly while some condition is true ✔

The correct answer is: Statements executed repeatedly while some condition is true

Question **4**

Correct

Mark 1.00 out of 1.00

How many times loop "for(int i=10; i>x; i-=2)" is executed if x = -1

Select one:

- a. 6 ✔
- b. There is no correct answer
- c. 5
- d. 10
- e. 2

The correct answer is: 6

Question **5**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  int a = 15;
  int b = 6;
  cout << ((double)a/b);
}
```

Select one:

- 3
- this will cause an error
- 3.000
- 2.5 ✔
- 2
- 2.000

Your answer is correct.

The correct answer is: 2.5

Question **6**

Correct

Mark 1.00 out of 1.00

What is the size of float in bytes?

Select one:

- a. 8
- b. 1
- c. There is no correct answer
- d. 4 ✔
- e. 2

The correct answer is: 4

Question **7**

Correct

Mark 1.00 out of 1.00

What is array?

Select one:

- a. It repeats some statements while some condition is true
- b. There is no correct answer
- c. It stores a collection of elements of the same type ✔
- d. It stores only one value of a given type, not more than one value
- e. It is some actions and its order

The correct answer is: It stores a collection of elements of the same type

Question **8**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  int a = 25;
  double b = 7;
  double c = a/b;
  cout << c;
}
```

Select one:

- 3.571 ✔
- 4
- 3
- 4.000
- 3.000

Your answer is correct.

The correct answer is: 3.571

Question **9**

Correct

Mark 1.00 out of 1.00

How many times loop "for(int i=1; i<=x; i+=3)" is executed if x = 15

Select one:

- a. 3
- b. 6
- c. 15
- d. 5 ✔
- e. 1

The correct answer is: 5

Question **10**

Correct

Mark 1.00 out of 1.00

What is false about variable name?

Select one:

- a. Can contain underscores
- b. Can contain letters, digits
- c. Can start with digits ✔
- d. Case sensitive
- e. There is no correct answer

The correct answer is: Can start with digits

Question **11**

Correct

Mark 1.00 out of 1.00

```
while (true)
{
    do
    {
        cout << "Hi" << endl;
        break;
    } while (true);
}
```

Select one:

- A. infinite loop ✔
- B. "Hi"
- C. No output
- D. Error

Your answer is correct.

The correct answer is: infinite loop

Question **12**

Correct

Mark 1.00 out of 1.00

What is the correct definition of an array?

Select one:

- a. An array is a series of elements of the different type in contiguous memory locations
- b. An array is a series of elements of the same type placed in non-contiguous memory locations
- c. An array is a series of element
- d. An array is a series of elements of the same type in contiguous memory locations ✔

The correct answer is: An array is a series of elements of the same type in contiguous memory locations

Question **13**

Correct

Mark 1.00 out of 1.00

Programmer wrote following code

```
#include<iostream>

int main() {

    char word[] = "hello";
    char word2[6] = { 'h','e','l','l','o' };

    if (word == word2) {
        std::cout << "Two words are the same" << std::endl;
    }
    else {
        std::cout << "Two words are different" << std::endl;
    }

}
```

What is the output of this code and why?

Select one:

- a. Two words are same
  Since two arrays are same and comparison will return 1
- b. Two words are different
  Because he is comparing memory addresses where arrays are stored and not arrays. Use strcmp() function to compare strings ✔
- c. Two words are different
  Because strings are different
- d. Two words are different
  Because he did not provide the number of elements explicitly in the declaration of word

Your answer is correct.

The correct answer is: Two words are different
Because he is comparing memory addresses where arrays are stored and not arrays. Use strcmp() function to compare strings

Question **14**

Correct

Mark 1.00 out of 1.00

```
int arr[5] = {3, 6};
cout << arr[2] << endl;
```

What is the output?

Select one:

- a. Garbage value
- b. 3
- c. 0 ✔
- d. 5
- e. 4

Your answer is correct.

The correct answer is: 0

Question **15**

Correct

Mark 1.00 out of 1.00

What will be the output of the following part of the code?

```
int mat[3];
int i, j;
int num = 0;
for (i = 0; i < 3; i++) {
    for (j = 2; j >= 0; j--) {
        mat[i] = j;
    }
    cout << mat[num] << " ";
    num++;
}
```

Select one:

- a. 0 0 0 ✔
- b. There will be error
- c. 1 2 3
- d. 3 3 3
- e. 3 2 1

Your answer is correct.

The correct answer is: 0 0 0

Question **16**

Correct

Mark 1.00 out of 1.00

Arrays **must** be explicitly declared providing a _____ size

Select one:

- a. floating
- b. double
- c. flexible
- d. constant ✔
- e. long

Your answer is correct.

The correct answer is: constant

Question **17**

Correct

Mark 1.00 out of 1.00

What will the contents of arr be after executing the following code?

```
int size = 6;
int arr[size];
for (int i = 0; i<size; i++){
    arr[i] = 2*i;
}
```

Select one:

- a. {0,1,2,3,4}
- b. {1,2,3,4,5}
- c. This may cause an error ✔
- d. {0,2,4,6,8}
- e. {0,1,2,3,4,5,6,7}

Your answer is correct.

The correct answer is: This may cause an error

Question **18**

Correct

Mark 1.00 out of 1.00

What will cause an error from below?

Select one:

- a. char a[] = "hello";
- b. int a[4] = {1, 2, 3, 4};
- c. int x[12];
- d. char a[] = {'a', 'r', 't'};
- e. There is no correct answer ✔

The correct answer is: There is no correct answer

Question **19**

Correct

Mark 1.00 out of 1.00

What is the output?

```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10};

    for (int i = 0; i < 10; i++)
    {
        a[i] = a[i] * a[9 - i];
        cout << a[i] << " ";
    }
}
```

Select one:

- A. error
- B. 10 18 24 28 30 180 196 192 162 100 ✔
- C. 10 18 24 28 30 30 28 24 18 10
- D. 10 18 24 28 30 6 7 8 9 10

Your answer is correct.

The correct answer is: 10 18 24 28 30 180 196 192 162 100

Question **20**

Correct

Mark 1.00 out of 1.00

What is the value of the **X** variable at the end of the following snippet?

```
int X;

X = 'b' - 'a' * ('\' / '\');
```

Select one:

- a. 2
- b. the snippet is invalid and will cause a compilation error ✔
- c. 1
- d. 0

The correct answer is: the snippet is invalid and will cause a compilation error

Question **21**

Correct

Mark 1.00 out of 1.00

How many stars will the following code print to the console window?

```
#include <iostream>
using namespace std;

int main() {
  for(int n = 0; n < 5; n++){
    for(int m = 0; m < n; m++){
      cout << "*";
    }
  }
}
```

Select one:

- 11
- 0
- 5
- this will loop infinitely
- 25
- 10 ✔

Your answer is correct.

The correct answer is: 10

Question **22**

Correct

Mark 1.00 out of 1.00

What is the output of the following code?

```
#include<iostream>

using namespace std;

int main() {

    int a = 3;
    double b = 5.0;

    std::cout << sizeof(a/b);

}
```

Select one:

- a. 4
- b. Compilation Error
- c. 8 ✔
- d. 0.6

Your answer is correct.

The correct answer is: 8

Question **23**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  for(int n = 0; n < 5; n++){
    int sum = 0;
    for(int m = n; m > 1; m--){
      sum += m;
    }
    cout << sum << " ";
  }
}
```

Select one:

- 0 1 1 1 1
- 0 0 2 5 9 ✔
- 1 2 3 5 8
- 0 0 2 7 16
- 0 1 2 3 4

Your answer is correct.

The correct answer is: 0 0 2 5 9

Question **24**

Correct

Mark 1.00 out of 1.00

How many stars will be printed by executing the following code?

```
int main() {
  int a = 0;
  int b = 100;

  while(a < b){
    b = b / 2 - a;
    a++;
    cout << "*";
  }
}
```

Select one:

- this will loop infinitely
- 3
- 1
- 4 ✔
- 25
- 0

Your answer is correct.

The correct answer is: 4

Question **25**

Correct

Mark 1.00 out of 1.00

What is the output of this code?

```
#include<iostream>


int main() {

    int arr[5] = {};

    for (int i = 0; i < 5; i++)
        arr[i] = i++;

    for (int i = 0; i < 5; i++)
        std::cout << arr[i];


}
```

Select one:

- a. 02004
- b. 12345
- c. 00204 ✔
- d. 00103

Your answer is correct.

The correct answer is: 00204

Question **26**

Correct

Mark 1.00 out of 1.00

What values are stored in the array x after running the following code?

```
#include <iostream>
using namespace std;

int main() {
  int x[] = {5, 4, -3, 15, 13, 50};

  x[3] = x[0] + x[2];
  x[5] = x[x[1]];
  x[4] = 75 + x[4];

  for(int i = 0; i < 6; i++){
    cout << x[i] << " ";
  }
}
```

Select one:

- exited, segmentation fault
- 5 4 -3 15 13 50
- 5 4 9 2 15 90
- 5 4 2 88 13 50
- 5 4 -3 2 88 13 ✔

Your answer is correct.

The correct answer is: 5 4 -3 2 88 13

Question **27**

Correct

Mark 1.00 out of 1.00

```
#include <iostream>
using namespace std;
int main() {
    int i, t[4];
    for(i = 0; i < 3; i++) {
            t[i] = i;
            t[i + 1] = 2 * t[i];
    }
    cout<< t[3];
    return 0;
}
```

Select one:

- a. the program outputs 2
- b. the program outputs 0
- c. the program outputs 4 ✔
- d. the program outputs 1

The correct answer is: the program outputs 4

Question **28**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 5, j = 4;
    for(i--; i--; i--)
            j--;
    cout<<i + j;
    return 0;
}
```

Select one:

- a. the program outputs 4
- b. the program outputs 1 ✔
- c. the program outputs 2
- d. the program enters an infinite loop and does not output anything

The correct answer is: the program outputs 1

Question **29**

Correct

Mark 1.00 out of 1.00

What is the output of this code?

```
#include<iostream>


int main() {

    int arr[5]{};
    int arr2[5]{1,2,3};

    int i{ 0 };

    for (; i < 5; i++) {
        arr[i++] = arr2[i--];
    }

    for (int i = 0; i < 5; i++)
        std::cout << arr[i];


}
```

Select one:

- a. 0123(garbage data)
- b. 12300 ✔
- c. 00123
- d. 00000

Your answer is correct.

The correct answer is: 12300

Question **30**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

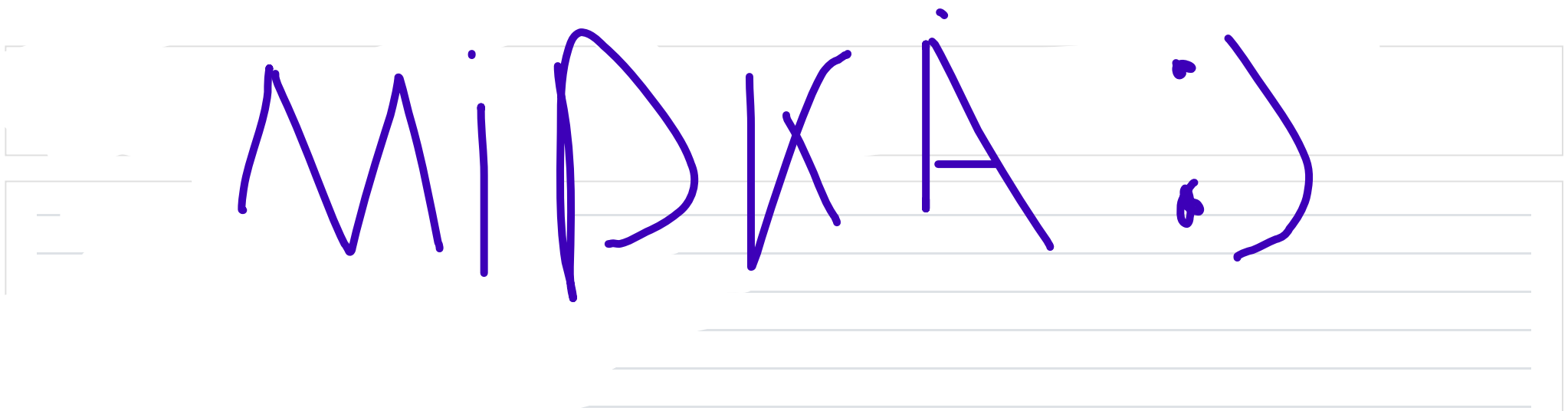
```
#include <iostream>
using namespace std;
int main() {
    int i = 0;
    if(i = 1)
            i = 2;
    else
            i = 3;
    cout<<i;
    return 0;
}
```

Select one:

- a. the program outputs 4
- b. the program outputs 3
- c. the program outputs 1
- d. the program outputs 2 ✔

The correct answer is: the program outputs 2

◄ Lecture 5 - Arrays (Multi-Dimension) Jump to... Assignment 4 ►



Question **1**

Correct

Mark 1.00 out of 1.00

All variables must be ___ before the can be used

Select one:

- a. declared ✔
- b. connected
- c. linked
- d. handled
- e. worked

Your answer is correct.

The correct answer is: declared

Question **2**

Correct

Mark 1.00 out of 1.00

What is the output of this code:

```
#include<iostream>
using namespace std;

int main() {
    int a = 1;
    for (int i = 0; i < 10; i++)
    {
        a *= 2;
    }
    cout << a;
}
```

Select one:

- A. 2
- B. 1024 ✔
- C. 100
- D. 512

Your answer is correct.

The correct answer is: 1024

Question **3**

Correct

Mark 1.00 out of 1.00

How many times loop "for(int i=1; i<x; i++)" is executed if x = 5

Select one:

- a. 2
- b. 4 ✔
- c. There is no correct answer
- d. 5
- e. 0

The correct answer is: 4

Question **4**

Correct

Mark 1.00 out of 1.00

What is the output of the below program?

```
int a=10;

int b, c;

b = a++;

c = a;

cout<<a<<b<<c;

return 0;
```

Select one:

- a. 111111
- b. 111011 ✔
- c. 101010
- d. 101011

Your answer is correct.

The correct answer is: 111011

Question **5**

Correct

Mark 1.00 out of 1.00

```
int s = 4;
cout << s++ << endl;
```

Select one:

- a. 7
- b. 6
- c. 5
- d. 3
- e. 4 ✔

Your answer is correct.

The correct answer is: 4

Question **6**

Correct

Mark 1.00 out of 1.00

(Removed) A ..... is a variable that holds a ..... as its value.

Select one:

- a. pointer / memory address
- b. address / pointer
- c. address / array ✔
- d. array / memory address
- e. There is no correct answer

The correct answers are: pointer / memory address, address / pointer, array / memory address, address / array, There is no correct answer

Question **7**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
    int a = 15;
    int b = 6;
    cout << ((double)a/b);
}
```

Select one:

- 2.000
- 3
- 2.5 ✔
- this will cause an error
- 3.000
- 2

Your answer is correct.

The correct answer is: 2.5

Question **8**

Correct

Mark 1.00 out of 1.00

What program takes the WHOLE source code and converts it to machine code?

Select one:

- a. Contester
- b. Compiler ✔
- c. Compressor
- d. There is no correct answer
- e. Interpreter

The correct answer is: Compiler

Question **9**

Correct

Mark 1.00 out of 1.00

What is the output of this code?

```
#include <iostream>
using namespace std;
int answer;
int main() {
    for(int i = 1; i <= 100; i++)
        answer += (i % 2);

    cout << answer;
    return 0;
}
```

Select one:

- a. unpredicted
- b. 0
- c. 50 ✔
- d. 100
- e. 49

Your answer is correct.

The correct answer is: 50

Question **10**

Incorrect

Mark 0.00 out of 1.00

Which operator can be used to COMPARE two values?

Select one or more:

- [x] a. <> ✖
- [ ] b. =
- [x] c. >< ✖
- [ ] d. !=
- [ ] e. ==

Your answer is incorrect.

The correct answers are: ==, !=

Question **11**

Correct

Mark 1.00 out of 1.00

int arr[5] = {3, 6};

cout << arr[2] << endl;

What is the output?

Select one:

- a. Garbage value
- b. 5
- c. 4
- d. 0 ✔
- e. 3

Your answer is correct.

The correct answer is: 0

Question **12**

Correct

Mark 1.00 out of 1.00

What is the output?

```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11};

    for (int i = 0; i < 10; i++)
    {
        cout << a[++i] << " ";
    }
}
```

Select one:

- A.
  2 4 6 8
- B.
  2 4 6 8 10 ✔
- C.
  1 3 5 7 9
- D. 2 3 4 5 6 7 8 9 10 11

Your answer is correct.

The correct answer is:
2 4 6 8 10

Question **13**

Incorrect

Mark 0.00 out of 1.00

Initial array: 3 4 2 7 6.

What is the order of elements of array after first pass of Bubble sort?

Select one:

- a. 4 3 2 6 7 2
- b. 2 3 4 6 7
- c. 4 3 2 6 7
- d. 3 2 4 6 7
- e. 3 4 2 6 7 ✖

Your answer is incorrect.

The correct answer is: 3 2 4 6 7

Question **14**

Incorrect

Mark 0.00 out of 1.00

What will be the value of the sum after executing the part of the code?

```
int a[3] = {1,2,3};
int b[ ] = {11,22,33};
int sum = 0;
for (int i = 0; i<3; i++) sum += pow(a[i],2) + b[i];
```

Select one:

- a. 12
- b. 154
- c. 80
- d. 38
- e. There will be error ✖
- f. 72

Your answer is incorrect.

The correct answer is: 80

Question **15**

Incorrect

Mark 0.00 out of 1.00

What is the value of the **X** variable at the end of the following snippet?

```
int X;

X = 'b' - 'a' * ('\' / '\');
```

Select one:

- a. 0 ✖
- b. 2
- c. 1
- d. the snippet is invalid and will cause a compilation error

The correct answer is: the snippet is invalid and will cause a compilation error

Question **16**

Correct

Mark 1.00 out of 1.00

What is the value of the **X** variable at the end of the following snippet?

```
int X = 1, Y = 2, Z;

Z = X / Y * --X * Y++;
```

Select one:

- a. 4
- b. 1
- c. 2
- d. 0 ✔

The correct answer is: 0

Question **17**

Correct

Mark 1.00 out of 1.00

Which condition is true if x = 1 and y = 0

Select one:

- a. if(!(x==1) || y>0)
- b. if(x==1 && y==1)
- c. There is no correct answer
- d. if(x!=1 && y==0)
- e. if(x%2==1 || y>=1) ✔

The correct answer is: if(x%2==1 || y>=1)

Question **18**

Correct

Mark 1.00 out of 1.00

What is the output?

```
cout << (int)(2.0 * 6.0) / 5.0;
```

Select one:

- A. 2
- B. 2.0
- C. 2.4 ✔
- D. Error

Your answer is correct.

The correct answer is: 2.4

Question **19**

Correct

Mark 1.00 out of 1.00

int fib[] = {1,2,3};

cout << fib << endl;

What is the output?

Select one:

- a. 123
- b. 1
- c. error
- d. address of the zero`s element ✔
- e. 1 2 3

Your answer is correct.

The correct answer is: address of the zero`s element

Question **20**

Correct

Mark 1.00 out of 1.00

What will be the output of the following part of the code:

```
int k = 10;
switch(k%2){
case 0: cout << " 0 ";
case 2: cout << " 1 "; break;
case 1: cout << " 2 ";
}
```

Select one:

- a. 2
- b. 0
- c. There will be error
- d. 0 1 2
- e. 0 1 ✔

Your answer is correct.

The correct answer is: 0 1

Question **21**

Incorrect

Mark 0.00 out of 1.00

What is size of a given array: char s[] = "hello";

Select one:

- a. 6
- b. 4
- c. There is no correct answer ✖
- d. 5
- e. 0

The correct answer is: 6

Question **22**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  int i = 8;

  while(i > 0){
    if(i > 5){
      cout << "X";
      i = i - 2;
    } else {
      cout << "Y";
      i = i - 1;
    }
  }
}
```

Select one:

- XXYYYY ✔
- XYXYXYXY
- XYYYYYY
- Nothing will be printed
- XXXYXYXYXY
- XXXX

Your answer is correct.

The correct answer is: XXYYYY

Question **23**

Correct

Mark 1.00 out of 1.00

Which solution has the exact same output as in the given example?

```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        if(a[i] % 2 == 0)
            cout << a[i] << " ";
    }
}
```

This program returns an output. Find another solution that will output the same

Select one:

a.
```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        cout << a[i]%2 << " ";
    }
}
```

b.
```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        cout << a[i++] << " ";
    }
}
```

c. ✔
```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        if (a[i] % 2 != 0)
            continue;

        cout << a[i] << " ";
    }
}
```

d.
```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        if (a[i] % 2 == 0)
            continue;

        cout << a[i] << " ";
    }
}
```

Your answer is correct.

The correct answer is:

```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        if (a[i] % 2 != 0)
            continue;

        cout << a[i] << " ";
    }
}
```

Question **24**

Correct

Mark 1.00 out of 1.00

What will cause an error from below?

Select one:

- a. int a[] = {14, 2, 36 , 32, 43};
- b. int a[5] = {13, 32, 43, 54, 25};
- c. There is no correct answer
- d. int a[3] = {0, 1, 2, 3}; ✔
- e. int a[2];

The correct answer is: int a[3] = {0, 1, 2, 3};

Question **25**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i, t[4];
    for(i = 3; i; i--) {
            t[i] = i - 1;
            t[t[i]] = t[i];
    }
    cout<<t[0];
    return 0;
}
```

Select one:

- a. the program outputs 1
- b. the program outputs 2
- c. the program outputs 0 ✔
- d. the program outputs 4

The correct answer is: the program outputs 0

Question **26**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 16, j = 8;
    do {
            i /= 2;
            j -= i / 2;
    } while(j > 0);
    cout<<i + j;
    return 0;
}
```

Select one:

- a. the program enters an infinite loop and does not output anything ✔
- b. the program outputs 4
- c. the program outputs 1
- d. the program outputs 2

The correct answer is: the program enters an infinite loop and does not output anything

Question **27**

Correct

Mark 1.00 out of 1.00

What is the output of the following code?

```
#include<iostream>


int main() {

    double y;
    y = 3 / 2;
    y = y == 1 ? (y = 3/2==1) : (y == 1.5 ? 0:1);

    std::cout << y;


}
```

Select one:

- a. 1 ✔
- b. 1.5
- c. Compilation Error
- d. 0

Your answer is correct.

The correct answer is: 1

Question **28**

Partially correct

Mark 0.20 out of 1.00

Complete the implementation body for the loop in order to get the following output:

```
+ + + + +
* + + + +
* * + + +
* * * + +
* * * * +
* * * * *
```

```
int main() {
    for ( int k = 0; k <=5; k++ ) {
        for ( int j = 0; j >= 6; j-- ){
            cout << "+";
        }
        for ( int j = k - 1; j >= 0; j-- ){
            cout << "*";
        }
        cout <<"\n";
    }
    return 0;
}
```

int k = 5; k >= 0; k--

int i = k + 2; i <= 6; i++

cout << "@";

int i = j; i < 6; i++

Your answer is partially correct.

You have correctly selected 1.
The correct answer is:

Complete the implementation body for the loop in order to get the following output:

```
+ + + + +
* + + + +
* * + + +
* * * + +
* * * * +
* * * * *
```

```
int main() {
    for ( [int k = 5; k >= 0; k--] ) {
        for ( [int i = k + 2; i <= 6; i++] ){
            [cout << "*";]
        }
        for ([int j = k - 1; j >= 0; j--]){
            [cout << "+";]
        }
        cout <<"\n";
    }
    return 0;
}
```

Question **29**

Correct

Mark 1.00 out of 1.00

What is the output of this code?

```
#include<iostream>



int main() {

    int arr[5] = {};

    for (int i = 0; i < 5; i++)
        arr[i] = i++;

    for (int i = 0; i < 5; i++)
        std::cout << arr[i];


}
```

Select one:

- a. 00204 ✔
- b. 00103
- c. 02004
- d. 12345

Your answer is correct.

The correct answer is: 00204

Question **30**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 1, j = i + 2 * i;
    switch(j - i) {
            case  1: j++;
            case  2: j--;
            case  0: j++; break;
            default: j = 0;
    }
    cout<< ++j;
    return 0;
}
```

Select one:

- a. the program outputs 4 ✔
- b. the program outputs 2
- c. the program outputs 1
- d. the program outputs 0

The correct answer is: the program outputs 4

Started on	Saturday, 3 October 2020, 11:08 AM
State	Finished
Completed on	Saturday, 3 October 2020, 11:54 AM
Time taken	45 mins 31 secs
Marks	23.00/30.00
Grade	**76.67** out of 100.00

Question **1**

Correct

Mark 1.00 out of 1.00

What is the output of the following code?

```
#include<iostream>

int a;

int main() {

    std::cout << a;

}
```

Select one:

- a. Compilation Error (variable is not initialized)
- b. Garbage data, since the variable is global
- c. Garbage data, since it is not initialized
- d. 0 ✔

Your answer is correct.

The correct answer is: 0

Question **2**

Correct

Mark 1.00 out of 1.00

```
#include <iostream>
using namespace std;
int main() {
    int i, t[4];
    for(i = 0; i < 3; i++) {
            t[i] = i;
            t[i + 1] = 2 * t[i];
    }
    cout<< t[3];
    return 0;
}
```

Select one:

- a. the program outputs 0
- b. the program outputs 2
- c. the program outputs 4 ✔
- d. the program outputs 1

The correct answer is: the program outputs 4

Question **3**

Correct

Mark 1.00 out of 1.00

What is the output of the following code?

```
#include<iostream>


int main() {

    double y = 5;

    if ((++y)++ == 6) {
        std::cout << y;
    }

    if (y == 7) {
        std::cout << y++;
    }
    std::cout << --y;


}
```

Select one:

- a. 4
- b. 77
- c. 78
- d. 777 ✔

Your answer is correct.

The correct answer is: 777

Question **4**

Correct

Mark 1.00 out of 1.00

int arr[5] = {3, 6};

cout << arr[2] << endl;

What is the output?

Select one:

- a. Garbage value
- b. 5
- c. 3
- d. 4
- e. 0 ✔

Your answer is correct.

The correct answer is: 0

Question **5**

Correct

Mark 1.00 out of 1.00

What is the output of the following code:

```
#include <iostream>
using namespace std;

int main() {
    int a = 10;
    int b = 20;

    if (a = b)
    {
        cout << "yes";
    }
    else if (a > b)
    {
        cout << "no";
    }

}
```

Select one:

- A. no output
- B. no
- C. yes ✔
- D. error

Your answer is correct.

The correct answer is: yes

Question **6**

Correct

Mark 1.00 out of 1.00

int s = 4;

cout << s++ << endl;

Select one:

- a. 5
- b. 4 ✔
- c. 3
- d. 7
- e. 6

Your answer is correct.

The correct answer is: 4

Question **7**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i, s = 0, t[] = {0, 1, 2, 4, 8, 16};
    for(i = 2; t[i] < 8; i *= 2)
            s += t[i];
    cout<<s;
    return 0;
}
```

Select one:

- a. the program outputs 0
- b. the program outputs 1
- c. the program outputs 2 ✔
- d. the program outputs 4

The correct answer is: the program outputs 2

Question **8**

Incorrect

Mark 0.00 out of 1.00

```
while (true)
{
    do
    {
        cout << "Hi" << endl;
        break;
    } while (true);
}
```

Select one:

- A. infinite loop
- B. Error
- C. No output
- D. "Hi" ✖

Your answer is incorrect.

The correct answer is: infinite loop

Question **9**

Correct

Mark 1.00 out of 1.00

What is the output?

```
cout << (int)(2.0 * 6.0) / 5.0;
```

Select one:

- A. 2.4 ✔
- B. 2
- C. Error
- D. 2.0

Your answer is correct.

The correct answer is: 2.4

Question **10**

Incorrect

Mark 0.00 out of 1.00

What will be the value of the sum after executing the part of the code?

```
int a[3] = {1,2,3};
int b[ ] = {11,22,33};
int sum = 0;
for (int i = 0; i<3; i++) sum += pow(a[i],2) + b[i];
```

Select one:

- a. There will be error ✖
- b. 72
- c. 154
- d. 12
- e. 80
- f. 38

Your answer is incorrect.

The correct answer is: 80

Question **11**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  int a = 25;
  double b = 7;
  double c = a/b;
  cout << c;
}
```

Select one:

- 4
- 3
- 4.000
- 3.571 ✔
- 3.000

Your answer is correct.

The correct answer is: 3.571

Question **12**

Correct

Mark 1.00 out of 1.00

What is the size of char in bytes?

Select one:

- a. 8
- b. 2
- c. There is no correct answer
- d. 4
- e. 1 ✔

The correct answer is: 1

Question **13**

Correct

Mark 1.00 out of 1.00

int s = 155;

cout << --s << endl;

What is the output?

Select one:

- a. 156
- b. 157
- c. 154 ✔
- d. 155
- e. 158

Your answer is correct.

The correct answer is: 154

Question **14**

Incorrect

Mark 0.00 out of 1.00

What is the value of the **X** variable at the end of the following snippet?

```
int X = 1, Y = 2, Z;

Z = X / Y * --X * Y++;
```

Select one:

- a. 4
- b. 2
- c. 0
- d. 1 ✖

The correct answer is: 0

Question **15**

Incorrect

Mark 0.00 out of 1.00

Initial array: 3 4 2 7 6.

What is the order of elements of array after first pass of Bubble sort?

Select one:

- a. 3 2 4 6 7
- b. 3 4 2 6 7 ✖
- c. 4 3 2 6 7 2
- d. 2 3 4 6 7
- e. 4 3 2 6 7

Your answer is incorrect.

The correct answer is: 3 2 4 6 7

Question **16**

Correct

Mark 1.00 out of 1.00

What is the output of this code?

```
#include<iostream>

int main() {

    const int size = 5;
    int array[size]{ 1,0,1 };

    for (int i = 3; i < size; i++) {
        array[i] = array[i - 3] + array[i - 2] + array[i - 1];
    }

    for (int i = 0; i < size; i++) {
        std::cout << array[i] << std::endl;
    }
}
```

Select one:

- a. 1
  0
  1
  3
  4
- b. 1
  0
  1
  2
  4
- c. Compilation Error
- d. 1
  0
  1
  2
  3 ✔

Your answer is correct.

The correct answer is: 1
0
1
2
3

Question **17**

Correct

Mark 1.00 out of 1.00

How many times loop "for(int i=1; i>x; i++)" is executed if x = 15

Select one:

- a. 15
- b. 1
- c. 5
- d. There is no correct answer ✔
- e. 10

The correct answer is: There is no correct answer

Question **18**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  int i = 0;
  do{
    i++;
    cout << i;
    continue;
  }while(i < 5);
}
```

Select one:

- 12345 ✔
- this will loop infinitely
- 012345
- 1 2 3 4 5
- 0 1 2 3 4 5
- 11111

Your answer is correct.

The correct answer is: 12345

Question **19**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  int i = 8;

  while(i > 0){
    if(i > 5){
      cout << "X";
      i = i - 2;
    } else {
      cout << "Y";
      i = i - 1;
    }
  }
```

Select one:

- Nothing will be printed
- XXXX
- XYXYXYXY
- XXXYXYXYXY
- XYYYYYY
- XXYYYY ✔

Your answer is correct.

The correct answer is: XXYYYY

Question **20**

Correct

Mark 1.00 out of 1.00

What will be the output of the following code?

```
#include<iostream>

using namespace std;
main() {
   int r, x = 2;

   float y = 5;

   r = y%x;
   cout<<r;
}
```

Select one:

- a. 0
- b. 2
- c. 1
- d. There will be an error ✔

Your answer is correct.

The correct answer is: There will be an error

Question **21**

Correct

Mark 1.00 out of 1.00

What is the output?

```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10};

    for (int i = 0; i < 10; i++)
    {
        a[i] = a[i] * a[9 - i];
        cout << a[i] << " ";
    }
}
```

Select one:

- A. error
- B. 10 18 24 28 30 180 196 192 162 100 ✔
- C. 10 18 24 28 30 30 28 24 18 10
- D. 10 18 24 28 30 6 7 8 9 10

Your answer is correct.

The correct answer is: 10 18 24 28 30 180 196 192 162 100

Question **22**

Correct

Mark 1.00 out of 1.00

What library you should include to use cin and cout?

Select one:

- a. There is no correct answer
- b. Iostream ✔
- c. InputStream
- d. Cstdlib
- e. Cstring

The correct answer is: Iostream

Question **23**

Correct

Mark 1.00 out of 1.00

How many times loop "for(int i=10; i>x; i-=2)" is executed if x = -1

Select one:

- a. 5
- b. There is no correct answer
- c. 2
- d. 6 ✔
- e. 10

The correct answer is: 6

Question **24**

Incorrect

Mark 0.00 out of 1.00

Which operator can be used to COMPARE two values?

Select one or more:

- a. =
- b. !=
- c. ==
- d. <> ✖
- e. >< ✖

Your answer is incorrect.

The correct answers are: ==, !=

Question **25**

Incorrect

Mark 0.00 out of 1.00

Programmer wrote this code

```
#include<iostream>

int main() {

    char word[] = "hello";
    std::cin >> word;

}
```

The program prompts a user to input any string. When user entered word "New York" (7 letters) code worked fine, however when he entered word "program" (7 letters) the code did not run. Why?

Select one:

- a. Initial size of array is 5, and providing a word "program" causes stack around variable to be corrupted
- b. He entered two words since New York is divided by white space. ✖
- c. Initial size of array is 5, and providing two words "New York" causes stack around variable to be corrupted since we have only one array
- d. He should have provided the size of the char array

Your answer is incorrect.

The correct answer is: Initial size of array is 5, and providing a word "program" causes stack around variable to be corrupted

Question **26**

Correct

Mark 1.00 out of 1.00

What is the wrong way to create an array?

Select one:

- a. int n = 5; int arr[n]; ✔
- b. There is no correct answer
- c. const int n = 3; int arr[n];
- d. int arr[5];
- e. int a[5 - 3];

The correct answer is: int n = 5; int arr[n];

Question **27**

Correct

Mark 1.00 out of 1.00

What is the output of this code?

```
#include<iostream>



int main() {

    int arr[5] = {};

    for (int i = 0; i < 5; i++)
        arr[i] = i++;

    for (int i = 0; i < 5; i++)
        std::cout << arr[i];


}
```

Select one:

- a. 02004
- b. 00103
- c. 12345
- d. 00204 ✔

Your answer is correct.

The correct answer is: 00204

Question **28**

Incorrect

Mark 0.00 out of 1.00

What is size of an array - int n[] = {3, 5, 6, 3, 7};

Select one:

- a. There is no correct answer
- b. 0
- c. 4 ✖
- d. 5
- e. 6

The correct answer is: 5

Question **29**

Correct

Mark 1.00 out of 1.00

What is the index number of the last element of an array with 9 elements?

Select one:

- a. 8 ✔
- b. 0
- c. Programmer-defined
- d. 9

Your answer is correct.

The correct answer is: 8

Question **30**

Correct

Mark 1.00 out of 1.00

Programmer wrote following code

```
#include<iostream>

int main() {

    char word[] = "hello";
    char word2[6] = { 'h','e','l','l','o' };

    if (word == word2) {
        std::cout << "Two words are the same" << std::endl;
    }
    else {
        std::cout << "Two words are different" << std::endl;
    }

}
```

What is the output of this code and why?

Select one:

- a. Two words are different
  Because he is comparing memory addresses where arrays are stored and not arrays. Use strcmp() function to compare strings ✔
- b. Two words are different
  Because he did not provide the number of elements explicitly in the declaration of word
- c. Two words are different
  Because strings are different
- d. Two words are same
  Since two arrays are same and comparison will return 1

Your answer is correct.

The correct answer is: Two words are different
Because he is comparing memory addresses where arrays are stored and not arrays. Use strcmp() function to compare strings

◄ Lecture 5 - Arrays (Multi-Dimension) Jump to... Assignment 4 ►

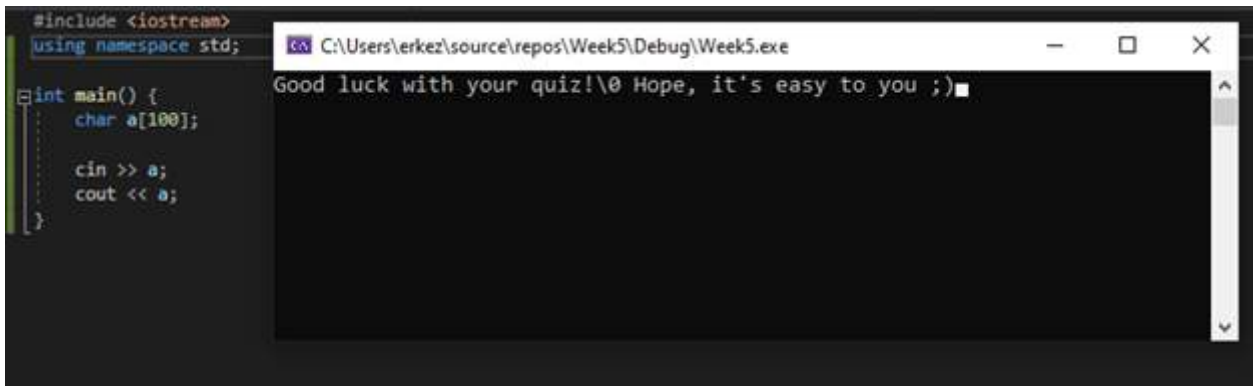
Started on	Saturday, 3 October 2020, 11:01 AM
State	Finished
Completed on	Saturday, 3 October 2020, 11:52 AM
Time taken	50 mins 52 secs
Marks	23.00/30.00
Grade	**76.67** out of 100.00

Question **1**

Incorrect

Mark 0.00 out of 1.00

What is the output of the following code if your **input** is "Good luck with your quiz!\0 Hope, it's easy to you ;)":



Select one:

- A. Good
- B. Good luck with your quiz!\0 Hope, it's easy to you ;) ✖
- C. Good luck with your quiz!
- D. Good luck with your quiz! Hope, it's easy to you ;)

Your answer is incorrect.

The correct answer is: Good

Question **2**

Correct

Mark 1.00 out of 1.00

What is the difference between '=' and '==' signs?

Select one:

- a. '=' is assignment operator and '==' is equality operator ✔
- b. '==' is assignment operator and '=' is equality operator
- c. there is no difference
- d. '==' is used for incrementation whereas '=' is used for assigning any value

Your answer is correct.

The correct answer is: '=' is assignment operator and '==' is equality operator

Question **3**

Correct

Mark 1.00 out of 1.00

What is the output of the following code?

```
#include<iostream>


int main() {

    double y = 5;

    if ((++y)++ == 6) {
        std::cout << y;
    }

    if (y == 7) {
        std::cout << y++;
    }
    std::cout << --y;


}
```

Select one:

- a. 777 ✔
- b. 78
- c. 77
- d. 4

Your answer is correct.

The correct answer is: 777

Question **4**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 16, j = 6;
    while(j > 0) {
            i /= 2;
            j -= i / 2;
    }
    cout<<i + j;
    return 0;
}
```

Select one:

- a. the program enters an infinite loop and does not output anything
- b. the program outputs 4 ✔
- c. the program outputs 1
- d. the program outputs 2

The correct answer is: the program outputs 4

Question **5**

Correct

Mark 1.00 out of 1.00

How many times loop "for(int i=1; i>x; i++)" is executed if x = 15

Select one:

- a. 1
- b. 10
- c. There is no correct answer ✔
- d. 15
- e. 5

The correct answer is: There is no correct answer

Question **6**

Correct

Mark 1.00 out of 1.00

Programmer wrote following code

```
#include<iostream>

int main() {

    char word[] = "hello";
    char word2[6] = { 'h','e','l','l','o' };

    if (word == word2) {
        std::cout << "Two words are the same" << std::endl;
    }
    else {
        std::cout << "Two words are different" << std::endl;
    }

}
```

What is the output of this code and why?

Select one:

- a. Two words are same
  Since two arrays are same and comparison will return 1
- b. Two words are different
  Because strings are different
- c. Two words are different
  Because he did not provide the number of elements explicitly in the declaration of word
- d. Two words are different
  Because he is comparing memory addresses where arrays are stored and not arrays. Use strcmp() function to compare strings ✔

Your answer is correct.

The correct answer is: Two words are different
Because he is comparing memory addresses where arrays are stored and not arrays. Use strcmp() function to compare strings

Question **7**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i, t[4];
    for(i = 3; i; i--) {
            t[i] = i - 1;
            t[t[i]] = t[i];
    }
    cout<<t[0];
    return 0;
}
```

Select one:

- a. the program outputs 4
- b. the program outputs 1
- c. the program outputs 2
- d. the program outputs 0 ✔

The correct answer is: the program outputs 0

Question **8**

Correct

Mark 1.00 out of 1.00

What will be the output of the following code?

```
#include<iostream>

using namespace std;
main() {
   int r, x = 2;

   float y = 5;

   r = y%x;
   cout<<r;
}
```

Select one:

- a. 0
- b. There will be an error ✔
- c. 2
- d. 1

Your answer is correct.

The correct answer is: There will be an error

Question **9**

Incorrect

Mark 0.00 out of 1.00

Complete the implementation body for the loop in order to get the following output:

```
+ + + + +
*  + + + +
*  *  + + +
*  *  *  + +
*  *  *  *  +
*  *  *  *  *
```

```
int main() {
    for ( [          ] ✖ ) {
        for ( [          ] ✖ ){
            [          ] ✖
        }
        for ( [          ] ✖ ){
            [int k = 5; k >= 0; k-- ] ✖
        }
        cout <<"\n";
    }
    return 0;
}
```

	int i = k + 2; i <= 6; i++	cout << "@";	int j = 0; j >= 6; j--	cout << "+";
int k = 0; k <=5; k++	cout << "*";	int i = j; i < 6; i++	int j = k - 1; j >= 0; j--	

Your answer is incorrect.

The correct answer is:

Complete the implementation body for the loop in order to get the following output:

```
+ + + + +
*  + + + +
*  *  + + +
*  *  *  + +
*  *  *  *  +
*  *  *  *  *
```

```
int main() {
    for ( [int k = 5; k >= 0; k--] ) {
        for ( [int i = k + 2; i <= 6; i++] ){
            [cout << "*";]
        }
        for ([int j = k - 1; j >= 0; j--]){
            [cout << "+";]
        }
        cout <<"\n";
    }
    return 0;
}
```

Question **10**

Correct

Mark 1.00 out of 1.00

What will be the output of the following part of the code?

```
int mat[3];
int i, j;
int num = 0;
for (i = 0; i < 3; i++) {
    for (j = 2; j >= 0; j--) {
        mat[i] = j;
    }
    cout << mat[num] << " ";
    num++;
}
```

Select one:

- a. 1 2 3
- b. 0 0 0 ✔
- c. 3 2 1
- d. 3 3 3
- e. There will be error

Your answer is correct.

The correct answer is: 0 0 0

Question **11**

Correct

Mark 1.00 out of 1.00

```
int arr[5] = {3, 6};
cout << arr[2] << endl;
```

What is the output?

Select one:

- a. 0 ✔
- b. Garbage value
- c. 5
- d. 4
- e. 3

Your answer is correct.

The correct answer is: 0

Question **12**

Correct

Mark 1.00 out of 1.00

What program takes the WHOLE source code and converts it to machine code?

Select one:

- a. Contester
- b. Compiler ✔
- c. Compressor
- d. There is no correct answer
- e. Interpreter

The correct answer is: Compiler

Question **13**

Correct

Mark 1.00 out of 1.00

What is the output?

```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11};

    for (int i = 0; i < 10; i++)
    {
        cout << a[++i] << " ";
    }
}
```

Select one:

- A.

  2 4 6 8
- B.

  1 3 5 7 9
- C.

  2 4 6 8 10 ✔
- D. 2 3 4 5 6 7 8 9 10 11

Your answer is correct.

The correct answer is:
2 4 6 8 10

Question **14**

Correct

Mark 1.00 out of 1.00

What is the output of this code?

```
#include<iostream>

int main() {

    int a = 100;
    {
        int a = 150;
        {
            int a = 200;
            std::cout << a << std::endl;
        }
        std::cout << a << std::endl;
    }
    std::cout << a << std::endl;

}
```

Select one:

- a. 200
  150
  100 ✔
- b. Compilation Error
- c. 200
  200
  200
- d. 100
  100
  100

Your answer is correct.

The correct answer is: 200
150
100

Question **15**

Correct

Mark 1.00 out of 1.00

What will be the output of the following code:
int x = 99, y = 88;
int a = (x<y)? x:y;
int b = (x>y)? x:y;
cout << a << b;

Select one:

- a. 88 99
- b. 8899 ✔
- c. 9988
- d. 99 88

Your answer is correct.

The correct answer is: 8899

Question **16**

Incorrect

Mark 0.00 out of 1.00

What will be the output of the following part of the code:

```
...
   int x = 7, y = 2;
   bool f;
   f = x!=6 || x<y;
   cout << f;
...
```

Select one:

- a. 1
- b. 0
- c. false ✖
- d. true

Your answer is incorrect.

The correct answer is: 1

Question **17**

Correct

Mark 1.00 out of 1.00

What will be the output of the following part of the code:

```
...
   int a = 3, b = 2;
   double c;
   c =  a/b;
   cout << c;
...
```

Select one:

- a. 1.5
- b. There will be error
- c. 1 ✔
- d. 2

Your answer is correct.

The correct answer is: 1

Question **18**

Correct

Mark 1.00 out of 1.00

What will cause an error from below?

Select one:

- a. int a[5] = {13, 32, 43, 54, 25};
- b. int a[] = {14, 2, 36 , 32, 43};
- c. int a[3] = {0, 1, 2, 3}; ✔
- d. There is no correct answer
- e. int a[2];

The correct answer is: int a[3] = {0, 1, 2, 3};

Question **19**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
    double x = 94.93;
    int y = x;
    cout << ((double)y);
}
```

Select one:

- this will cause an error
- 94 ✔
- 94.930
- 95.000
- 95

Your answer is correct.

The correct answer is: 94

Question **20**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  int a = 25;
  double b = 7;
  double c = a/b;
  cout << c;
}
```

Select one:

- 4.000
- 3.571 ✔
- 3.000
- 4
- 3

Your answer is correct.

The correct answer is: 3.571

Question **21**

Correct

Mark 1.00 out of 1.00

What is false about variable name?

Select one:

- a. Case sensitive
- b. Can start with digits ✔
- c. Can contain underscores
- d. There is no correct answer
- e. Can contain letters, digits

The correct answer is: Can start with digits

Question **22**

Correct

Mark 1.00 out of 1.00

Your program is expected to find out if a person is suitable for military service (age from 18 to 45 for men and from 18 to 35 for women). Please, provide a proper condition (variables that are used: ***int age*** that stores an age value, ***char gender*** that takes 2 possible values ***'M'*** or ***'W'***)

Select one:

- A.
  if((18 < age < 45 and gender == 'M') or (18 < age < 35 and gender == 'W'))
- B.
  if((age > 18 && age < 45 && gender == 'M') && (age > 18 && age < 35 && gender == 'W'))
- C.
  if((gender == 'M' && age < 45 || age > 18) && (gender == 'W' && age < 35 || age > 18))
- D.
  if((age > 18 && age < 45 && gender == 'M') || (age > 18 && age < 35 && gender == 'W')) ✔

Your answer is correct.

The correct answer is:
if((age > 18 && age < 45 && gender == 'M') || (age > 18 && age < 35 && gender == 'W'))

Question **23**

Correct

Mark 1.00 out of 1.00

What will the contents of arr be after executing the following code?

```
int size = 6;
int arr[size];
for (int i = 0; i<size; i++){
    arr[i] = 2*i;
}
```

Select one:

- a. {0,1,2,3,4,5,6,7}
- b. {1,2,3,4,5}
- c. {0,1,2,3,4}
- d. This may cause an error ✔
- e. {0,2,4,6,8}

Your answer is correct.

The correct answer is: This may cause an error

Question **24**

Not answered

Marked out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int a = -1, b = 1;
    float i = 2.0, j = -2.0;
    cout<< (a > b) + (b > a) + (i > j) + (j > i) + ('z' > 'a');
    return 0;
}
```

Select one:

- a. the program outputs 3
- b. the program outputs 4
- c. the program outputs 2
- d. the program outputs 1

The correct answer is: the program outputs 3

Question **25**

Correct

Mark 1.00 out of 1.00

What will be the output of the following part of the code:

int k = 10;

switch(k%2){

case 0: cout << " 0 ";

case 2: cout << " 1 "; break;

case 1: cout << " 2 ";

}

Select one:

- a. 0 1 2
- b. 0
- c. 2
- d. 0 1 ✔
- e. There will be error

Your answer is correct.

The correct answer is: 0 1

Question **26**

Not answered

Marked out of 1.00

Match codes with correct outputs

```
#include <iostream>
using namespace std;
int main()
{
int x[5] = {1, 2, 3, 4, 5};
for (int i = 0; i<5; i++){
 if (i%3 == 2) break;
 x[i] = i*2;
 cout << x[i] << " ";
}
return 0;
}
```

Choose...

```
 #include <iostream>
 using namespace std;
 int main()
 {
 int x[5] = {1, 2, 3, 4, 5};
 for (int i = 0; i<5; i++){
  if (i%2 == 0) continue;
  x[i] = i*3;
  cout << x[i] << " ";
 }
 return 0;
 }
```

Choose...

```
#include <iostream>
using namespace std;
int main()
{
int x[5] = {5, 4, 3, 2, 1};
for (int i = 1; i<4; i++){
 if (i%2 == 0) continue;
 x[i] = i;
 cout << x[i] << " ";
}
return 0;
}
```

Choose...

Your answer is incorrect.

The correct answer is:

```
#include <iostream>
using namespace std;
int main()
{
int x[5] = {1, 2, 3, 4, 5};
for (int i = 0; i<5; i++){
 if (i%3 == 2) break;
 x[i] = i*2;
 cout << x[i] << " ";
}
return 0;
}
```

→ 0 2,

```
#include <iostream>
using namespace std;
int main()
{
int x[5] = {1, 2, 3, 4, 5};
for (int i = 0; i<5; i++){
 if (i%2 == 0) continue;
 x[i] = i*3;
 cout << x[i] << " ";
}
return 0;
}
```

→ 3 9,

```
#include <iostream>
using namespace std;
int main()
{
int x[5] = {5, 4, 3, 2, 1};
for (int i = 1; i<4; i++){
 if (i%2 == 0) continue;
 x[i] = i;
 cout << x[i] << " ";
}
return 0;
}
```

→ 1 3

Question **27**

Not answered

Marked out of 1.00

What is a program (application)?

Select one:

- a. There is no correct answer
- b. It is a hardware that is used to calculate some expression
- c. It is a set of memory cells
- d. It is a set of instructions that tells the computer what to do
- e. It is a person who writes the code in some programming language

The correct answer is: It is a set of instructions that tells the computer what to do

Question **28**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  for(int k = 5; k >= 0; k--){
    for(int i = k + 2; i <= 6; i++){
      cout << "*";
    }
    for(int j = k - 1; j >= 0; j--){
      cout << "+";
    }
    cout << "\n";
  }
}
```

Select one:

- *****
  +****
  ++***
  +++**
  ++++*
  +++++
- This will loop infinitely
- Nothing will be printed out
- *****
  ****+
  ***++
  **+++
  *++++
  +++++
- +++++
  ++++*
  +++**
  ++***
  +****
  *****
- +++++
  *++++
  **+++
  ***++
  ****+
  ***** ✔

Your answer is correct.

The correct answer is: +++++
*++++
**+++
***++
****+
*****

Question **29**

Not answered

Marked out of 1.00

What is the output of the following code?

```
#include<iostream>

int main() {

    int a = 3;

    switch (a) {
    case 1:
        std::cout << 3 << std::endl;
    case 2:
    case 3:
        std::cout << 4;
    default:
        std::cout << 5;
        break;
    }

}
```

Select one:

- a. 45
- b. 4
  5
- c. 55
- d. 3
  45

Your answer is incorrect.

The correct answer is: 45

Question **30**

Correct

Mark 1.00 out of 1.00

What is the value of a “int a = 13%5;” expression?

Select one:

- A. 6
- B. 3 ✔
- C. 2.6
- D. error

Your answer is correct.

The correct answer is: 3

◄ Lecture 5 - Arrays (Multi-Dimension) Jump to... Assignment 4 ►

Question: Every C++ program begins execution at the function: main

Question: Every C++ statement ends with a(n): semicolon

Question: What statement is used to make decisions: if

Question: Comments cause the computer to print the text after the // on the screen when the program is executed: false

Question: The escape sequence \n, when output with cout and the stream insertion operator, causes the cursor to position to the beginning of the next line on the screen true

Question: All variables must be declared before they are used true

Question: All variables must be given a type when they are declared true

Question: C++ considers the variables number and NuMbEr to be identical false

Question: Declarations can appear almost anywhere in the body of a C++ function true

Question: The modulus operator (%) can be used only with integer operands true

Question: The arithmetic operators *, /, %, + and all have the same level of precedence false

Question: A C++ program that prints three lines of output must contain three statements using cout and the stream insertion operator false

Question: Declare the variables c, thisIsAVariable, q76354 and number to be of type int. int c, thisIsAVariable, q76354, number;

Question: Prompt the user to enter an integer. End your prompting message with a colon (:) followed by a space and leave the cursor positioned after the space std::cout << "Enter an integer: ";

Question: Read an integer from the user at the keyboard and store the value entered in integer variable age. std::cin >> age;

Question: If the variable number is not equal to 7, print "The variable number is not equal to 7". if (number != 7) std::cout << "The variable number is not equal to 7\n";

Question: Print the message "This is a C++ program" on one line. std::cout << "This is a C++ program\n";

Question: Print the message "This is a C++ program" with each word on a separate line. std::cout << "This\nis\na\nC++\nprogram\n";

Question: Print the message "This is a C++ program" with each word separated from the next by a tab. std::cout << "This\tis\ta\tC++\tprogram\n";

Question: Identify and correct the errors in the following statement (assume that the statement using std::cout; is used):

```
if ( c < 7 );

cout << "c is less than 7\n";.
```

```
if ( c < 7 ) cout << "c is less than 7\n";
```

Question: Identify and correct the errors in the following statement (assume that the statement using std::cout; is used):

```
if ( c => 7 ) cout << "c is equal to or greater than 7\n";
```

```
if ( c >= 7 ) cout << "c is equal to or greater than 7\n";
```

Question: A house is to a blueprint as a(n) _____ is to a class

object

Question: Every class definition contains keyword _____ followed immediately by the class's name

class

Question: A class definition is typically stored in a file with the _____ filename extension

.h

Question: Each parameter in a function header should specify both a(n) _____ and a(n) _____.

type, name

Question: When each object of a class maintains its own copy of an attribute, the variable that represents the attribute is also known as a(n) _____.

data member

Question: Keyword public is a(n) _____.

access specifier

Question: Return type _____ indicates that a function will perform a task but will not return any information when it completes its task

void

Question: Function _____ from the <string> library reads characters until a newline character is encountered, then copies those characters into the specified string

getline

Question: When a member function is defined outside the class definition, the function header must include the class name and the _____, followed by the function name to "tie" the member function to the class definition

binary scope resolution operator (::)

Question: The source-code file and any other files that use a class can include the class's header file via an _____ preprocessor directive

#include

Question: By convention, function names begin with a capital letter and all subsequent words in the name begin with a capital letter

false

Question: Empty parentheses following a function name in a function prototype indicate that the function does not require any parameters to perform its task

true

Question: Data members or member functions declared with access specifier private are accessible to member functions of the class in which they are declared

true

Question: Variables declared in the body of a particular member function are known as data members and can be used in all member functions of the class

false

Question: Every function's body is delimited by left and right braces ({ and }).

true

Question: Any source-code file that contains int main() can be used to execute a program

true

Question: The types of arguments in a function call must match the types of the corresponding parameters in the function prototype's parameter list

true

Question: What is the difference between a local variable and a data member?

A local variable is declared in the body of a function and can be used only from the point at which it is declared to the immediately following closing brace. A data member is declared in a class definition, but not in the body of any of the class's member functions. Every object (instance) of a class has a separate copy of the class's data members. Also, data members are accessible to all member functions of the class.

Question: Explain the purpose of a function parameter. What is the difference between a parameter and an argument?

A parameter represents additional information that a function requires to perform its task. Each parameter required by a function is specified in the function header. An argument is the value supplied in the function call. When the function is called, the argument value is passed into the function parameter so that the function can perform its task

Question: All programs can be written in terms of three types of control structures:_____, _____and_____.

Sequence, selection and repetition

Question: The_____selection statement is used to execute one action when a condition is true or a different action when that condition is false.

if…else

Question: Repeating a set of instructions a specific number of times is called_____repetition

Counter-controlled or definite

Question: When it is not known in advance how many times a set of statements will be repeated, a(n)_____value can be used to terminate the repetition

Sentinel, signal, flag or dummy

Question: Write four different C++ statements that each add 1 to integer variable x

x =+ 1; x += 1; ++x; x++;

Question: In one statement, assign the sum of the current value of x and y to z and postincrement the value of x

z = x++ + y;

Question: Determine whether the value of the variable count is greater than 10. If it is, print "Count is greater than 10."

if (count > 10) cout << "Count is greater than 10" << endl;

Question: Predecrement the variable x by 1, then subtract it from the variable total

total -= --x;

Question: Calculate the remainder after q is divided by divisor and assign the result to q. Write this statement two different ways

q %= divisor;

q = q % divisor;

Question: Declare variables sum and x to be of type int

int sum, x;

Question: Set variable x to 1

x=1;

Question: Set variable sum to 0

sum=0;

Question: Add variable x to variable sum and assign the result to variable sum

sum+=x;

Question: Print "The sum is: " followed by the value of variable sum

cout << "The sum is: " << sum << end1;

Question: State the values of the variable after the calculation is performed. Assume that, when a statement begins executing, all variables have the integer value 5:

product *= x++;

product = 25, x = 6;

Question: State the values of the variable after the calculation is performed. Assume that, when a statement begins executing, all variables have the integer value 5:

quotient /= ++x;

quotient = 0, x = 6;

Question: Write single C++ statements that input integer variable x with cin and >>

cin>>x;

Question: Write single C++ statements that input integer variable y with cin and >>.

```
cin >> y;
```

Question: Write single C++ statements that postincrement variable i by 1

```
i++;
```

Question: Write single C++ statements that determine whether i is less than or equal to y

```
if (i<=y)
```

Question: Write single C++ statements that output integer variable power with cout and <<

```
cout << power << endl;
```

Question: Identify and correct the errors in the following code:

```
        while ( c <= 5 )
        {
          product *= c;
          c++;
while ( c <= 5 )
{
  product *= c;
  c++;
}
```

Question: Identify and correct the errors in the following code:

```
if ( gender == 1 )
   cout << "Woman" << endl;
else;
   cout << "Man" << endl;
if ( gender == 1 )
  cout << "Woman" << endl;
else
```

```
   cout << "Man" << endl;
```

Question: Identify and correct the errors in the following code:

```
cin << value;
```

```
cin >> value;
```

Question: What is wrong with the following while repetition statement?

```
while ( z >= 0 )
```

```
   sum += z;
```

The value of the variable z is never changed in the while statement. Therefore, if the loop continuation condition (z >= 0) is initially true, an infinite loop is created. To prevent the infinite loop, z must be decremented so that it eventually becomes less than 0.

Question: The default case is required in the switch selection statement

false

Question: The break statement is required in the default case of a switch selection statement to exit the switch properly

false

Question: The expression (x > y && a < b) is true if either the expression x > y is true or the expression a < b is true

false

Question: An expression containing the || operator is true if either or both of its operands are true

true

Question: Write a C++ statement or a set of C++ statements to sum the odd integers between 1 and 99 using a for statement. Assume the integer variables sum and count have been declared

```
sum = 0;
```

```
        for ( count = 1; count <= 99; count += 2 ) sum += count;
```

Question: Write a C++ statement or a set of C++ statements to print the value 333.546372 in a field width of 15 characters with precisions of 1, 2 and 3. Print each number on the same line. Left-justify each number in its field.

```
cout << fixed << left

   << setprecision( 1 ) << setw( 15 ) << 333.546372

   << setprecision( 2 ) << setw( 15 ) << 333.546372

   << setprecision( 3 ) << setw( 15 ) << 333.546372

   << endl;
```

Question: Write a C++ statement or a set of C++ statements to calculate the value of 2.5 raised to the power 3 using function pow. Print the result with a precision of 2 in a field width of 10 positions

```
cout << fixed << setprecision( 2 ) << setw( 10 ) << pow( 2.5, 3 ) << endl;
```

Question: Write a C++ statement or a set of C++ statements to print the integers from 1 to 20 using a while loop and the counter variable x. Assume that the variable x has been declared, but not initialized. Print only 5 integers per line. [Hint: Use the calculation x % 5. When the value of this is 0, print a newline character; otherwise, print a tab character.]

```
x = 1;

while ( x <= 20 )

{

   cout << x;

   if ( x % 5 == 0 )

      cout << endl;

   else

      cout << '\t';

   x++;

}
```

Question: Find the error(s) in the following code segment:

```
        x = 1;

        while ( x <= 10 );

        x++;

        }
```

```
x = 1;

while ( x <= 10 )

x++;

}
```

Question: Find the error(s) in the following code segment:

```
for ( y = .1; y != 1.0; y += .1 ) cout << y << endl;
```

```
for ( y = 1; y != 10; y++ ) cout << ( static_cast< double >( y ) / 10
) << endl;
```

Question: Find the error(s) in the following code segment:

```
switch ( n )

{

 case 1:

  cout << "The number is 1" << endl;

           case 2:

    cout << "The number is 2" << endl;

    break;

          default:

    cout << "The number is not 1 or 2" << endl;

    break;

}

switch ( n )

{

case 1:

    cout << "The number is 1" << endl;

    break;

 case 2:
```

```
    cout << "The number is 2" << endl;
    break;
default:
    cout << "The number is not 1 or 2" << endl;
    break;
}
```

Question: Find the error(s) in the following code segment. The following code should print the values 1 to 10:

```
n = 1;
while ( n < 10 )  cout << n++ << endl;
n = 1;
while ( n < 11 )  cout << n++ << endl;
```

Question: What variable is?

named part in a memory

Question: Program components in C++ are called _____ and _____.

functions, classes

A function is invoked with a(n) _____.

function call

Question: A variable that is known only within the function in which it is defined is called a(n) _____.

local variable

Question: The _____ statement in a called function passes the value of an expression back to the calling function

return

Question: The keyword _____ is used in a function header to indicate that a function does not return a value or to indicate that a function contains no parameters

void

Question: The _____ of an identifier is the portion of the program in which the identifier can be used

scope

Question: The three ways to return control from a called function to a caller are _____, _____ and _____.

return, return expression or encounter the closing right brace of a function.

Question: A(n)_____ allows the compiler to check the number, types and order of the arguments passed to a function.

function prototype

Question: Function _____ is used to produce random numbers

rand()

Question: Function _____ is used to set the random number seed to randomize a program

srand()

Question: The storage-class specifiers are mutable, _____, _____, _____ and _____.

auto, register, extern, static

Question: Variables declared in a block or in the parameter list of a function are assumed to be of storage class _____ unless specified otherwise

auto

Question: Storage-class specifier _____ is a recommendation to the compiler to store a variable in one of the computer's registers

register

Question: A variable declared outside any block or function is a(n) _____ variable

global

Question: For a local variable in a function to retain its value between calls to the function, it must be declared with the _____ storage-class specifier

static

Question: The six possible scopes of an identifier are _____, _____, _____, _____, _____ and _____.

function scope, file scope, block scope, function-prototype scope, class scope, namespace scope

Question: A function that calls itself either directly or indirectly (i.e., through another function) is a(n) _____ function

recursive

Question: A recursive function typically has two components: One that provides a means for the recursion to terminate by testing for a(n) _____ case and one that expresses the problem as a recursive call for a slightly simpler problem than the original call

base

Question: In C++, it is possible to have various functions with the same name that operate on different types or numbers of arguments. This is called function _____.

overloading

Question: The _____ enables access to a global variable with the same name as a variable in the current scope

unary scope resolution operator (::)

Question: The _____ qualifier is used to declare read-only variables

const

Question: A function _____ enables a single function to be defined to perform a task on many different data types

template

Question: Give the function header for the following function. Function hypotenuse that takes two double-precision, floating-point arguments, side1 and side2, and returns a double-precision, floating-point result.

double hypotenuse(double side1, double side2)

Question: Give the function header for the following function. Function smallest that takes three integers, x, y and z, and returns an integer.

int smallest(int x, int y, int z)

Question: Give the function header for the following function. Function instructions that does not receive any arguments and does not return a value. [Note: Such functions are commonly used to display instructions to a user.]

```
void instructions( void )
```

Question: Give the function header for the following function. Function intToDouble that takes an integer argument, number, and returns a double-precision, floating-point result.

```
double intToDouble( int number)
```

Question: Write a declaration for the following: Integer count that should be maintained in a register. Initialize count to 0.

```
register int count = 0;
```

Question: Write a declaration for the following: Double-precision, floating-point variable lastVal that is to retain its value between calls to the function in which it is defined.

```
static double lastVal;
```

Question: Find the error in the following program segment:

```
int g( void)
  {
    cout << "Inside function g" << endl;
    int h( void )
    {
       cout << "Inside function h" << endl;
     }
  }
int g( void)
  {
    cout << "Inside function g" << endl;
  }
  int h( void )
```

```
 {
   cout << "Inside function h" << endl;
 }
```

Question: Find the error in the following program segment:

```
int sum( int x, int y )
{
   int result;
   result = x + y;
}
int sum( int x, int y )
{
   return x + y;
}
```

Question: Find the error in the following program segment:

```
int sum( int n )
{
   if ( n == 0 )
      return 0;
   else
      n + sum( n - 1 );
}
int sum( int n )
{
  if ( n == 0 )
      return 0;
```

```
    else
      return n + sum( n - 1 );
}
```

Question: Find the error in the following program segment

```
void f ( double a);
{
   float a;
   cout << a << endl;
}
void f ( double a)
{
   cout << a << endl;
}
```

Question: Find the error in the following program segment:

```
void product( void )
{
   int a;
   int b;
   int c;
   int result;
   cout << "Enter three integers: ";
   cin >> a >> b >> c;
   result = a * b * c;
   cout << "Result is " << result;
   return result;
```

```
}

void product( void )

{

   int a;

   int b;

   int c;

   int result;

   cout << "Enter three integers: ";

   cin >> a >> b >> c;

   result = a * b * c;

   cout << "Result is " << result;

}
```

Question: Why would a function prototype contain a parameter type declaration such as double &?

This creates a reference parameter of type "reference to double" that enables the function to modify the original variable in the calling function

Question: All arguments to function calls in C++ are passed by value

false

Question: Lists and tables of values can be stored in _____ or _____.

arrays, vectors

Question: The elements of an array are related by the fact that they have the same _____ and _____.

name, type

Question: The number used to refer to a particular element of an array is called its _____.

subscript (or index)

Question: A(n) _____ should be used to declare the size of an array, because it makes the program more scalable

constant variable

Question: The process of placing the elements of an array in order is called _____ the array

sorting

The process of determining if an array contains a particular key value is called _____ the array

searching

Question: An array that uses two subscripts is referred to as a(n) _____ array

two-dimensional

Question: An array can store many different types of values

false

Question: An array subscript should normally be of data type float

false

Question: If there are fewer initializers in an initializer list than the number of elements in the array, the remaining elements are initialized to the last value in the initializer list

false

Question: It is an error if an initializer list contains more initializers than there are elements in the array

true

Question: An individual array element that is passed to a function and modified in that function will contain the modified value when the called function completes execution

false

Question: Write one or more statements that perform the following task for and array called “fractions”. Define a constant variable arraySize initialized to 10.

const int arraySize = 10;

Question: Write one or more statements that perform the following task for and array called “fractions”. Declare an array with arraySize elements of type double, and initialize the elements to 0.

double fractions[arraySize] = { 0.0};

Question: Write one or more statements that perform the following task for and array called “fractions”. Name the fourth element of the array

```
fractions[ 3 ]
```

Question: Write one or more statements that perform the following task for and array called “fractions”. Refer to array element 4

```
fractions[ 4 ]
```

Question: Write one or more statements that perform the following task for and array called “fractions”. Assign the value 1.667 to array element 9

```
fractions[ 9 ] = 1.667;
```

Question: Write one or more statements that perform the following task for and array called “fractions”. Assign the value 3.333 to the seventh element of the array

```
fractions[ 6 ] = 3.333;
```

Question: Write one or more statements that perform the following task for and array called “fractions”. Print array elements 6 and 9 with two digits of precision to the right of the decimal point.

```
cout << fixed << setprecision ( 2 ); cout << fractions[ 6 ] < < ' ' fractions[ 9 ] << endl;
```

Question: Write one or more statements that perform the following task for and array called “fractions”. Print all the array elements using a for statement. Define the integer variable i as a control variable for the loop.

```
for ( int i = 0; < arraySize; i++ ) cout << "fractions[" < i << "] = " << fractions[ i ] <<
endl;
```

Question: Declare the array to be an integer array and to have 3 rows and 3 columns. Assume that the constant variable arraySize has been defined to be 3:

```
int table[ arraySize ][ arraySize];
```

Question: Write a program segment to print the values of each element of array table in tabular format with 3 rows and 3 columns. Assume that the array was initialized with the declaration

```
int table[ arraySize ][ arraySize ] = { { 1, 8 }, { 2, 4, 6 }, { 5 } };
```

and the integer variables i and j are declared as control variables.

```
cout << "     [0] [1] [2]" << endl;

for ( int i = 0; i < arraySize; i++ ) {
```

```
   cout << '[' << i << "] ";
   for ( int j = 0; j < arraySize; j++ )
      cout << setw( 3 ) << table[ i ][ j ] << " ";
   cout << endl;
```

Question: Find the error in the following program segment and correct the error:

```
        #include <iostream>;
```

```
#include <iostream>
```

Question: Find the error in the following program segment and correct the error:

```
    arraySize = 10; // arraySize was declared const
```

```
const int arraySize=10;
```

Question: Find the error in the following program segment and correct the error:

Assume that int b[10] = { 0 };

```
        for ( int i = 0; <= 10; i++ )
           b[ i ] = 1;
```

```
for ( int i = 0; <= 9; i++ )
   b[ i ] = 1;
```

Question: the error in the following program segment and correct the error:

Assume that int a[2][2] = { { 1, 2 }, { 3, 4 } };

```
        a[ 1, 1 ] = 5;
```

```
a[ 1, 1 ] = 5;
```

Question: A pointer is a variable that contains as its value the_____ of another variable

address

Question: The three values that can be used to initialize a pointer are_____,_____ and_____.

0, NULL, an address

Question: The only integer that can be assigned directly to a pointer is_____.

0

Question: The address operator & can be applied only to constants and to expressions

false

Question: A pointer that is declared to be of type void * can be dereferenced

false

Question: Pointers of different types can never be assigned to one another without a cast operation

false

Question: Declare an array of type double called numbers with 10 elements, and initialize the elements to the values 0.0, 1.1, 2.2, ..., 9.9. Assume that the symbolic constant SIZE has been defined as 10

double numbers[SIZE] = { 0.0, 1.1, 2.2, 3.3, 4.4, 5.5, 6.6, 7.7, 8.8, 9.9 };

Question: Declare a pointer nPtr that points to a variable of type double

double *nPtr;

Question: Use a for statement to print the elements of array numbers using array subscript notation. Print each number with one position of precision to the right of the decimal point:

```
cout << fixed << showpoint << setprecision( 1 );

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

  cout << numbers[ i ] <<' ';
```

Question: Write two separate statements that each assign the starting address of array numbers to the pointer variable nPtr.

nPtr = numbers;

nPtr = &numbers[0];

Question: Use a for statement to print the elements of array numbers using pointer/offset notation with pointer nPtr

```
cout << fixed << showpoint << setprecision( 1 );

for ( int j = 0; j < SIZE; j++ )

  cout << *( nPtr + j ) << ' ';
```

Question: Use a for statement to print the elements of array numbers using pointer/offset notation with the array name as the pointer

```
cout << fixed << showpoint << setprecision( 1 );

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

  cout << *( numbers + k ) << ' ';
```

Question: Use a for statement to print the elements of array numbers using pointer/subscript notation with pointer nPtr

```
cout << fixed << showpoint << setprecision( 1 );

for ( int m = 0; m < SIZE; m++ )

  cout << nPtr[ m ] << ' ';
```

Question: Refer to the fourth element of array numbers using array subscript notation, pointer/offset notation with the array name as the pointer, pointer subscript notation with nPtr and pointer/offset notation with nPtr

```
numbers[ 3 ]

*( numbers + 3 )

nPtr[ 3 ]

*( nPtr + 3 )
```

Question: Assuming that nPtr points to the beginning of array numbers (the starting address of the array is at location 1002500 in memory), what address is referenced by nPtr + 8?

The address is 1002500 + 8 * 8 = 1002564

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Declare the variable fPtr to be a pointer to an object of type double.

```
double *fPtr;
```

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Assign the address of variable number1 to pointer variable fPtr.

```
fPtr = &number1;
```

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Print the value of the object pointed to by fPtr.

```
cout << "The value of *fPtr is " << *fPtr << endl;
```

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Assign the value of the object pointed to by fPtr to variable number2.

```
number2 = *fPtr;
```

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Print the value of number2.

```
cout << "The value of number2 is " << number2 << endl;
```

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Print the address of number1.

```
cout << "The address of number1 is " << &number1 << endl;
```

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Print the address stored in fPtr.

```
cout << "The address stored in fPtr is " << fPtr << endl;
```

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Copy the string stored in array s2 into array s1.

```
strcpy( s1, s2 );
```

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Compare the string in s1 with the string in s2, and print the result.

```
cout << "strcmp(s1, s2) = " << strcmp( s1, s2 ) << endl;
```

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Append the first 10 characters from the string in s2 to the string in s1.

```
strncat( s1, s2, 10 );
```

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Determine the length of the string in s1, and print the result.

```
cout << "strlen(s1) = " << strlen( s1 ) << endl;
```

Question: Write a single statement that performs the specified task. Assume that floating-point variables number1 and number2 have been declared and that number1 has been initialized to 7.3. Assume that variable ptr is of type char *. Assume that arrays s1 and s2 are each 100-element char arrays that are initialized with string literals. Assign to ptr the location of the first token in s2. The tokens delimiters are commas (,).

```
ptr = strtok( s2, ",");
```

Question: Write the function header for a function called exchange that takes two pointers to double-precision, floating-point numbers x and y as parameters and does not return a value

```
void exchange( double *x, double *y )
```

Question: Write the function header for a function called evaluate that returns an integer and that takes as parameters integer x and a pointer to function poly. Function poly takes an integer parameter and returns an integer.

```
int evaluate( int x, int (*poly)( int ))
```

Question: Write two statements that each initialize character array vowel with the string of vowels, "AEIOU".

```
char vowel[] = "AEIOU";

char vowel[] = { 'A', 'E', 'I', 'O', 'U', '\0' };
```

Question: Find the error in the following program segment. Assume the following declarations and statements:

```
int *zPtr;       // zPtr will reference array z

int *aPtr = 0;

void *sPtr = 0;

int number;

int z[ 5 ] = { 1, 2, 3, 4, 5 };

++zPtr;


zPtr = z;

++zPtr;
```

Question: Find the error in the following program segment. Assume the following declarations and statements:

```
int *zPtr;       // zPtr will reference array z

int *aPtr = 0;

void *sPtr = 0;
```

```
int number;

int z[ 5 ] = { 1, 2, 3, 4, 5 };

// use pointer to get first value of array

number = zPtr;

 number = *zPtr;
```

Question: Find the error in the following program segment. Assume the following declarations and statements:

```
int *zPtr;       // zPtr will reference array z

int *aPtr = 0;

void *sPtr = 0;

int number;

int z[ 5 ] = { 1, 2, 3, 4, 5 };

// assign array element 2 (the value 3) to number

number = *zPtr[ 2 ];

  number = zPtr[ 2 ];
```

Question: Find the error in the following program segment. Assume the following declarations and statements:

```
int *zPtr;       // zPtr will reference array z

int *aPtr = 0;

void *sPtr = 0;

int number;

int z[ 5 ] = { 1, 2, 3, 4, 5 };

// print entire array z

for ( int i = 0; i <= 5; i++ ) cout << zPtr[ i ] << endl;

 for ( int i = 0; i < 5; i++ ) cout << zPtr[ i ] << endl;
```

Question: Find the error in the following program segment. Assume the following declarations and statements:

```
int *zPtr;       // zPtr will reference array z

int *aPtr = 0;

void *sPtr = 0;

int number;

int z[ 5 ] = { 1, 2, 3, 4, 5 };

// assign the value pointed to by sPtr to number

number = *sPtr;

 number = *static_cast< int * >( sPtr );
```

Question: Find the error in the following program segment. Assume the following declarations and statements:

```
int *zPtr;       // zPtr will reference array z

int *aPtr = 0;

void *sPtr = 0;

int number;

int z[ 5 ] = { 1, 2, 3, 4, 5 };

++z;

 ++z[4];
```

Question: Find the error in the following program segment. Assume the following declarations and statements:

```
int *zPtr;       // zPtr will reference array z

int *aPtr = 0;

void *sPtr = 0;

int number;

int z[ 5 ] = { 1, 2, 3, 4, 5 };

char s[ 10 ];

cout << strncpy( s, "hello", 5 ) << endl;
```

```
cout << strncpy( s, "hello", 6 ) << endl;
```

Question: Find the error in the following program segment. Assume the following declarations and statements:

```
int *zPtr;       // zPtr will reference array z

int *aPtr = 0;

void *sPtr = 0;

int number;

int z[ 5 ] = { 1, 2, 3, 4, 5 };

char s[ 12 ];

strcpy( s, "Welcome Home");
```

```
char s[ 13 ];

strcpy( s, "Welcome Home");
```

Question: Find the error in the following program segment. Assume the following declarations and statements:

```
int *zPtr;       // zPtr will reference array z

int *aPtr = 0;

void *sPtr = 0;

int number;

int z[ 5 ] = { 1, 2, 3, 4, 5 };

if ( strcmp( string1, string2 ) )

   cout << "The strings are equal" << endl;
```

```
if ( strcmp( string1, string2 ) == 0)

   cout << "The strings are equal" << endl;
```

Question: What (if anything) prints when the following statement is performed?Assume the following variable declarations:

```
char s1[ 50 ] = "jack";

char s2[ 50 ] = "jill";

char s3[ 50 ];

cout << strcpy( s3, s2 ) << endl;
```

jill

Question: What (if anything) prints when the following statement is performed?Assume the following variable declarations:

```
char s1[ 50 ] = "jack";

char s2[ 50 ] = "jill";

char s3[ 50 ];

cout << strcat( strcat( strcpy( s3, s1 ), " and " ), s2 ) << endl;
```

jack and jill

Question: What (if anything) prints when the following statement is performed?Assume the following variable declarations:

```
char s1[ 50 ] = "jack";

char s2[ 50 ] = "jill";

char s3[ 50 ];

cout << strlen( s1 ) + strlen( s2 ) << endl;
```

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Question: What (if anything) prints when the following statement is performed?Assume the following variable declarations:

```
char s1[ 50 ] = "jack";

char s2[ 50 ] = "jill";

char s3[ 50 ];


cout << strlen( s3 ) << endl;
```

13

Question: Class members are accessed via the _____ operator in conjunction with the name of an object (or reference to an object) of the class or via the _____ operator in conjunction with a pointer to an object of the class

dot (.), arrow (->)

Question: Class members specified as _____ are accessible only to member functions of the class and friends of the class

private

Question: Class members specified as _____ are accessible anywhere an object of the class is in scope

public

Question: _____ can be used to assign an object of a class to another object of the same class

Default memberwise assignment (performed by the assignment operator).

Question: Find the error(s) in the following and correct it (them).

Assume the following prototype is declared in class Time:

```
void ~Time( int );
```

~Time( );

Question: Find the error(s) in the following and correct it (them).

The following is a partial definition of class Time:

```
class Time
{
public:
   // function prototypes
private:
   int hour = 0;
   int minute = 0;
   int second = 0;
}; // end class Time
```

```
class Time
{
public:
  // function prototypes
 Time (int my_hour, int my_minute, int my_second)
   {
     hour=my_hour;
     minute=my_minute;
     second=my_second;
   }
private:
  int hour;
  int minute;
  int second;
}; // end class Time
```

Question: Find the error(s) in the following and correct it (them).

Assume the following prototype is declared in class Employee:

```
 int Employee( const char *, const char * );
Employee( const char *, const char * );
```

Question: _____ must be used to initialize constant members of a class

Member initializers

Question: A nonmember function must be declared as a(n) _____ of a class to have access to that class's private data members.

friend

Question: The _____ operator dynamically allocates memory for an object of a specified type and returns a _____ to that type.

new, pointer

Question: A constant object must be _____; it cannot be modified after it is created

initialized

Question: A(n) _____ data member represents class-wide information

static

Question: An object's non-static member functions have access to a "self pointer" to the object called the _____ pointer

this

Question: The keyword _____ specifies that an object or variable is not modifiable after it is initialized

const

Question: If a member initializer is not provided for a member object of a class, the object's _____ is called

default constructor

Question: A member function should be declared static if it does not access _____ class members

non-static

Question: Member objects are constructed _____ their enclosing class object

before

Question: The _____ operator reclaims memory previously allocated by new.

delete

Question: Find the errors in the following class and explain how to correct them:

```
class Example
 {
 public:
```

```
   Example( int y = 10 )
      : data( y )
   {
      // empty body
   } // end Example constructor
   int getIncrementedData() const
   {
      return data++;
   } // end function getIncrementedData
   static int getCount()
   {
      cout << "Data is " << data << endl;
      return count;
   } // end function getCount
private:
   int data;
   static int count;
}; // end class Example
```

Error: The class definition for Example has two errors. The first occurs in function getIncrementedData. The function is declared const, but it modifies the object.

Correction: To correct the first error, remove the const keyword from the definition of getIncrementedData.

Error: The second error occurs in function getCount. This function is declared static, so it is not allowed to access any non-static member of the class.

Correction: To correct the second error, remove the output line from the getCount definition.

Question: Input/output in C++ occurs as _____ of bytes

streams

Question: The stream manipulators that format justification are_____, _____ and _____.

left, right and internal

Question: Member function _____ can be used to set and reset format state

flags

Question: Most C++ programs that do I/O should include the _____ header file that contains the declarations required for all stream-I/O operations.

<iostream>

Question: When using parameterized manipulators, the header file _____ must be included

<iomanip>

Question: Header file _____ contains the declarations required for user-controlled file processing

<fstream>

Question: The ostream member function _____ is used to perform unformatted output

write

Question: Input operations are supported by class _____.

istream

Question: Outputs to the standard error stream are directed to either the _____ or the _____ stream object

cerr or clog

Question: Output operations are supported by class _____.

ostream

Question: The symbol for the stream insertion operator is _____.

<<

Question: The four objects that correspond to the standard devices on the system include _____, _____, _____ and _____.

cin, cout, cerr and clog

Question: The symbol for the stream extraction operator is _____

>>

Question: The stream manipulators _____, _____ and _____ specify that integers should be displayed in octal, hexadecimal and decimal formats, respectively

oct, hex and dec

Question: When used, the _____ stream manipulator causes positive numbers to display with a plus sign.

showpos

Question: The stream member function flags with a long argument sets the flags state variable to its argument and returns its previous value.

false

Question: The stream insertion operator << and the stream-extraction operator >> are overloaded to handle all standard data typesincluding strings and memory addresses (stream-insertion only)and all user-defined data types.

false

Question: The stream member function flags with no arguments resets the stream's format state

false

Question: The stream extraction operator >> can be overloaded with an operator function that takes an istream reference and a reference to a user-defined type as arguments and returns an istream reference.

true

Question: The stream insertion operator << can be overloaded with an operator function that takes an istream reference and a reference to a user-defined type as arguments and returns an istream reference

false

Question: Input with the stream extraction operator >> always skips leading white-space characters in the input stream, by default

true

Question: The stream member function rdstate returns the current state of the stream

true

Question: The cout stream normally is connected to the display screen

true

Question: The stream member function good returns TRUE if the bad, fail and eof member functions all return false

true

Question: The cin stream normally is connected to the display screen

false

Question: If a nonrecoverable error occurs during a stream operation, the bad member function will return TRue

true

Question: Output to cerr is unbuffered and output to clog is buffered

true

Question: Stream manipulator showpoint forces floating-point values to print with the default six digits of precision unless the precision value has been changed, in which case floating-point values print with the specified precision

true

Question: The ostream member function put outputs the specified number of characters

false

Question: The stream manipulators dec, oct and hex affect only the next integer output operation

false

Question: By default, memory addresses are displayed as long integers

false

Question: Output the string "Enter your name: "

```
cout << "Enter your name: ";
```

Question: Use a stream manipulator that causes the exponent in scientific notation and the letters in hexadecimal values to print in capital letters

```
cout << uppercase;
```

Question: Output the address of the variable myString of type char *

```
cout << static_cast< void *  >( myString );
```

Question: Use a stream manipulator to ensure floating-point values print in scientific notation

```
cout << scientific;
```

Question: Output the address in variable integerPtr of type int *.

```
cout << integerPtr;
```

Question: Use a stream manipulator such that, when integer values are output, the integer base for octal and hexadecimal values is displayed.

```
cout << showbase;
```

Question: Output the value pointed to by floatPtr of type float *.

```
cout << *floatPtr;
```

Question: Use a stream member function to set the fill character to '*' for printing in field widths larger than the values being output. Write a separate statement to do this with a stream manipulator

```
cout.fill( '*' );
```

```
cout << setfill( '*' );
```

Question: Output the characters '0' and 'K' in one statement with ostream function put

```
cout.put( '0' ).put( 'K' );
```

Question: Member function read cannot be used to read data from the input object cin

```
false
```

Question: The programmer must create the cin, cout, cerr and clog objects explicitly

false

Question: A program must call function close explicitly to close a file associated with an ifstream, ofstream or fstream object.

false

Question: If the file-position pointer points to a location in a sequential file other than the beginning of the file, the file must be closed and reopened to read from the beginning of the file

false

Question: The ostream member function write can write to standard-output stream cout

true

Question: Data in sequential files always is updated without overwriting nearby data

false

Question: Searching all records in a random-access file to find a specific record is unnecessary

true

Question: Records in random-access files must be of uniform length

false

Question: Member functions seekp and seekg must seek relative to the beginning of a file

false

Question: A selection sort application would take approximately _____ times as long to run on a 128-element vector as on a 32-element vector.

16, because an O(n2) algorithm takes 16 times as long to sort four times as much information

Question: The efficiency of merge sort is _____

O(n log n).

Started on	Saturday, 3 October 2020, 12:01 PM
State	Finished
Completed on	Saturday, 3 October 2020, 12:52 PM
Time taken	50 mins 8 secs
Marks	23.90/30.00
Grade	**79.67** out of 100.00

Question **1**

Correct

Mark 1.00 out of 1.00

What will be the output of the following part of the code:

```
...
   int a = 3, b = 2;
   double c;
   c =  a/b;
   cout << c;
...
```

Select one:

- a. 2
- b. There will be error
- c. 1 ✔
- d. 1.5

Your answer is correct.

The correct answer is: 1

Question **2**

Correct

Mark 1.00 out of 1.00

Are these statements equivalent?

- while (x > y){ do_smth(); }
- x > y ? do_smth() : break;

Select one:

- True
- False ✔

The correct answer is 'False'.

Question **3**

Correct

Mark 1.00 out of 1.00

How many times loop "for(int i=1; i<x; i++)" is executed if x = 5

Select one:

- a. 4 ✔
- b. 0
- c. There is no correct answer
- d. 5
- e. 2

The correct answer is: 4

Question **4**

Correct

Mark 1.00 out of 1.00

..... are used to hold output for a particular data consumer, such as a monitor, a file, or a printer.

Select one:

- a. input stream
- b. output stream ✔
- c. file stream
- d. string stream
- e. there is no correct answer

The correct answer is: output stream

Question **5**

Correct

Mark 1.00 out of 1.00

What is the value of a "int a = 13%5;" expression?

Select one:

- A. 6
- B. 2.6
- C. error
- D. 3 ✔

Your answer is correct.

The correct answer is: 3

Question **6**

Correct

Mark 1.00 out of 1.00

(Removed) A ..... is a variable that holds a ..... as its value.

Select one:

- a. pointer / memory address ✔
- b. address / pointer
- c. address / array
- d. There is no correct answer
- e. array / memory address

The correct answers are: pointer / memory address, address / pointer, array / memory address, address / array, There is no correct answer

Question **7**

Partially correct

Mark 0.50 out of 1.00

The following line of code is an example of what? (More than one choice could be correct)

n =113;

Select one or more:

- [ ] syntax error
- [x] initialisation ✔
- [ ] assignment
- [ ] equality check
- [ ] declaration

Your answer is partially correct.

You have correctly selected 1.

The correct answers are: assignment, initialisation

Question **8**

Incorrect

Mark 0.00 out of 1.00

How many times loop "for(int i=0; i<x; i*=2)" is executed if x = 100

Select one:

- a. 10
- b. 100 ✖
- c. 7
- d. 1
- e. There is no correct answer

The correct answer is: There is no correct answer

Question **9**

Correct

Mark 1.00 out of 1.00

What is true about float and double?

Select one:

- a. Float has 6-9 digits and double has 15-18 digits of precision ✔
- b. Float has 3-5 digits and double has 6-9 digits of precision
- c. Float has 15-18 digits and double has 6-9 digits of precision
- d. There is no correct answer
- e. Float has 6-9 digits and double has 3-5 digits of precision

The correct answer is: Float has 6-9 digits and double has 15-18 digits of precision

Question **10**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
    double x = 94.93;
    int y = x;
    cout << ((double)y);
}
```

Select one:

- this will cause an error
- 95.000
- 94 ✔
- 95
- 94.930

Your answer is correct.

The correct answer is: 94

Question **11**

Incorrect

Mark 0.00 out of 1.00

Initial array: 3 4 2 7 6.

What is the order of elements of array after first pass of Bubble sort?

Select one:

- a. 3 4 2 6 7 ✖
- b. 4 3 2 6 7
- c. 2 3 4 6 7
- d. 4 3 2 6 7 2
- e. 3 2 4 6 7

Your answer is incorrect.

The correct answer is: 3 2 4 6 7

Question **12**

Correct

Mark 1.00 out of 1.00

The programmer wrote Bubble sort code:

```
#include<iostream>

int main() {

    const int size = 11;
    char word[size] = "programmer";

    for (int i = 0; i < size-1; i++) {
        for (int j = 0; j < size - i - 1; j++) {
            if (word[j] > word[j + 1]) {
                char temp = word[j];
                word[j] = word[j + 1];
                word[j + 1] = temp;
            }
        }
    }

    std::cout << word;
}
```

To sort string. What is the output of this code and why?

Select one:

- a. It is sorted in reverse alphabetic order.
  The code will not produce any output since Null terminator is sorted to be first.
- b. It is sorted in alphabetic order.
  The output is
  aegmmoprrr
- c. It is sorted in reverse alphabetic order.
  The output is
  rrrpommgea
- d. It is sorted in alphabetic order.
  The code will not produce any output since Null terminator is sorted to be first. ✔

Your answer is correct.

The correct answer is: It is sorted in alphabetic order.
The code will not produce any output since Null terminator is sorted to be first.

Question **13**

Correct

Mark 1.00 out of 1.00

What will be the output of the following code:

```
int x = 99, y = 88;
int a = (x<y)? x:y;
int b = (x>y)? x:y;
cout << a << b;
```

Select one:

- a. 8899 ✔
- b. 9988
- c. 99 88
- d. 88 99

Your answer is correct.

The correct answer is: 8899

Question **14**

Correct

Mark 1.00 out of 1.00

What is the output?

```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10};

    for (int i = 0; i < 10; i++)
    {
        a[i] = a[i] * a[9 - i];
        cout << a[i] << " ";
    }
}
```

Select one:

- A. 10 18 24 28 30 6 7 8 9 10
- B. error
- C. 10 18 24 28 30 180 196 192 162 100 ✔
- D. 10 18 24 28 30 30 28 24 18 10

Your answer is correct.

The correct answer is: 10 18 24 28 30 180 196 192 162 100

Question **15**

Correct

Mark 1.00 out of 1.00

What output will be produced by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  int i = 8;

  while(i > 0){
    if(i > 5){
      cout << "X";
      i = i - 2;
    } else {
      cout << "Y";
      i = i - 1;
    }
  }
}
```

Select one:

- XXYYYY ✔
- XYXYXYXY
- XXXYXYXYXY
- XYYYYYY
- XXXX
- Nothing will be printed

Your answer is correct.

The correct answer is: XXYYYY

Question **16**

Correct

Mark 1.00 out of 1.00

Programmer wrote following code

```
#include<iostream>

int main() {

    char word[] = "hello";
    char word2[6] = { 'h','e','l','l','o' };

    if (word == word2) {
        std::cout << "Two words are the same" << std::endl;
    }
    else {
        std::cout << "Two words are different" << std::endl;
    }

}
```

What is the output of this code and why?

Select one:

- a. Two words are different
  Because he did not provide the number of elements explicitly in the declaration of word
- b. Two words are same
  Since two arrays are same and comparison will return 1
- c. Two words are different
  Because strings are different
- d. Two words are different
  Because he is comparing memory addresses where arrays are stored and not arrays. Use strcmp() function to compare strings ✔

Your answer is correct.

The correct answer is: Two words are different
Because he is comparing memory addresses where arrays are stored and not arrays. Use strcmp() function to compare strings

Question **17**

Incorrect

Mark 0.00 out of 1.00

Which solution has the exact same output as in the given example?

```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        if(a[i] % 2 == 0)
            cout << a[i] << " ";
    }
}
```

This program returns an output. Find another solution that will output the same

Select one:

a.
```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        if (a[i] % 2 != 0)
            continue;

        cout << a[i] << " ";
    }
}
```

b.
```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        if (a[i] % 2 == 0)
            continue;

        cout << a[i] << " ";
    }
}
```

c.
```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        cout << a[i++] << " ";
    }
}
```

d.
```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        cout << a[i]%2 << " ";
    }
}
```

Your answer is incorrect.

The correct answer is:

```
#include<iostream>
using namespace std;

int main() {

    int a[] = {1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17};

    for (int i = 0; i < 17; i++)
    {
        if (a[i] % 2 != 0)
            continue;

        cout << a[i] << " ";
    }
}
```

Question **18**

Incorrect

Mark 0.00 out of 1.00

Your program is expected to find out if a person is suitable for military service (age from 18 to 45 for men and from 18 to 35 for women). Please, provide a proper condition (variables that are used: ***int age*** that stores an age value, ***char gender*** that takes 2 possible values ***'M'*** or ***'W'***)

Select one:

- A. if((18 < age < 45 and gender == 'M') or (18 < age < 35 and gender == 'W'))
- B. if((gender == 'M' && age < 45 || age > 18) && (gender == 'W' && age < 35 || age > 18)) ✖
- C. if((age > 18 && age < 45 && gender == 'M') && (age > 18 && age < 35 && gender == 'W'))
- D. if((age > 18 && age < 45 && gender == 'M') || (age > 18 && age < 35 && gender == 'W'))

Your answer is incorrect.

The correct answer is:
if((age > 18 && age < 45 && gender == 'M') || (age > 18 && age < 35 && gender == 'W'))

Question **19**

Correct

Mark 1.00 out of 1.00

What will be produced by executing the following part of the code?

char name[] = {'H','e','l','l','o'};

cout << name;

Select one:

- a. {'H','e','l','l','o'}
- b. There will be error
- c. An address of array "name[]"
- d. Hello
- e. We cannot tell clearly as we may get some garbage in the output ✔
- f. Hello\0

Your answer is correct.

The correct answer is: We cannot tell clearly as we may get some garbage in the output

Question **20**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int a = -1, b = 1;
    float i = 2.0, j = -2.0;
    cout<< (a > b) + (b > a) + (i > j) + (j > i) + ('z' > 'a');
    return 0;
}
```

Select one:

- a. the program outputs 2
- b. the program outputs 1
- c. the program outputs 3 ✔
- d. the program outputs 4

The correct answer is: the program outputs 3

Question **21**

Incorrect

Mark 0.00 out of 1.00

Which condition is true if x = 1 and y = 0

Select one:

- a. if(!(x==1) || y>0)
- b. if(x!=1 && y==0)
- c. There is no correct answer ✖
- d. if(x%2==1 || y>=1)
- e. if(x==1 && y==1)

The correct answer is: if(x%2==1 || y>=1)

Question **22**

Correct

Mark 1.00 out of 1.00

How many stars will be printed by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
    int y = 12;
    int z = 0.0;

    while(y < 10.0){
        z += 3;
        y += z;
        cout << "*";
    }
}
```

Select one:

- this will loop infinitely
- 0 ✔
- 4
- 3
- 5

Your answer is correct.

The correct answer is: 0

Question **23**

Correct

Mark 1.00 out of 1.00

How many stars will be output by executing the following code?

```
#include <iostream>
using namespace std;

int main() {
  int x = 3;
  if(x > 0) {
    while(x < 5){
      x++;
      cout << "*";
    }
  } else {
    cout << "*";
  }
}
```

Select one:

- 2 ✔
- 0
- 4
- 3
- 5
- this will loop infinitely

Your answer is correct.

The correct answer is: 2

Question **24**

Correct

Mark 1.00 out of 1.00

What is size of an array - int n[] = {3, 5, 6, 3, 7};

Select one:

- a. 0
- b. There is no correct answer
- c. 6
- d. 5 ✔
- e. 4

The correct answer is: 5

Question **25**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 16, j = 6;
    while(j > 0) {
            i /= 2;
            j -= i / 2;
    }
    cout<<i + j;
    return 0;
}
```

Select one:

- a. the program outputs 1
- b. the program enters an infinite loop and does not output anything
- c. the program outputs 4 ✔
- d. the program outputs 2

The correct answer is: the program outputs 4

Question **26**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 1, j = i + 2 * i;
    switch(j) {
            default: j = 0;
            case  1: j++; break;
            case  2: j--;
            case  0: j++; break;
    }
    cout<<++j;
    return 0;
}
```

Select one:

- a. the program outputs 0
- b. the program outputs 2 ✔
- c. the program outputs 4
- d. the program outputs 1

The correct answer is: the program outputs 2

Question **27**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 0;
    if(i = 1)
            i = 2;
    else
            i = 3;
    cout<<i;
    return 0;
}
```

Select one:

- a. the program outputs 4
- b. the program outputs 3
- c. the program outputs 2 ✔
- d. the program outputs 1

The correct answer is: the program outputs 2

Question **28**

Partially correct

Mark 0.40 out of 1.00

Complete the implementation body for the loop in order to get the following output:

```
+ + + + +
* + + + +
* * + + +
* * * + +
* * * * +
* * * * *
```

```
int main() {
    for ( int j = 0; j >= 6; j-- ) {
        for ( int i = j; i < 6; i++ ){
            cout << "*";
        }
        for ( int k = 0; k <=5; k++ ){
            cout << "+";
        }
        cout <<"\n";
    }
    return 0;
}
```

int k = 5; k >= 0; k-- | int i = k + 2; i <= 6; i++ | cout << "@";

int j = k - 1; j >= 0; j--

Your answer is partially correct.

You have correctly selected 2.
The correct answer is:

Complete the implementation body for the loop in order to get the following output:

```
+ + + + +
* + + + +
* * + + +
* * * + +
* * * * +
* * * * *
```

```
int main() {
    for ( [int k = 5; k >= 0; k--] ) {
        for ( [int i = k + 2; i <= 6; i++] ){
            [cout << "*";]
        }
        for ([int j = k - 1; j >= 0; j--]){
            [cout << "+";]
        }
        cout <<"\n";
    }
    return 0;
}
```

Question **29**

Correct

Mark 1.00 out of 1.00

What values are stored in the array x after running the following code?

```
#include <iostream>
using namespace std;

int main() {
  int x[] = {5, 4, -3, 15, 13, 50};

  x[3] = x[0] + x[2];
  x[5] = x[x[1]];
  x[4] = 75 + x[4];

  for(int i = 0; i < 6; i++){
    cout << x[i] << " ";
  }
}
```

Select one:

- 5 4 2 88 13 50
- exited, segmentation fault
- 5 4 9 2 15 90
- 5 4 -3 2 88 13 ✔
- 5 4 -3 15 13 50

Your answer is correct.

The correct answer is: 5 4 -3 2 88 13

Question **30**

Correct

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i, s = 0, t[] = {0, 1, 2, 4, 8, 16};
    for(i = 2; t[i] < 8; i *= 2)
            s += t[i];
    cout<<s;
    return 0;
}
```

Select one:

- a. the program outputs 0
- b. the program outputs 1
- c. the program outputs 2 ✔
- d. the program outputs 4

The correct answer is: the program outputs 2

◄ Lecture 5 - Arrays (Multi-Dimension) Jump to... Assignment 4 ►

Started on	Saturday, 7 November 2020, 11:01 AM
State	Finished
Completed on	Saturday, 7 November 2020, 11:41 AM
Time taken	39 mins 35 secs
Marks	26.00/30.00
Grade	**86.67** out of 100.00

Question **1**

Complete

Mark 1.00 out of 1.00

What is a program (application)?

Select one:

- a. It is a hardware that is used to calculate some expression
- b. It is a set of memory cells
- c. It is a set of instructions that tells the computer what to do
- d. There is no correct answer
- e. It is a person who writes the code in some programming language

Question **2**

Complete

Mark 1.00 out of 1.00

How in C++ logical NOT is written?

Select one:

- a. ||
- b. There is no correct answer
- c. &&
- d. %%
- e. !

Question **3**

Complete

Mark 1.00 out of 1.00

What is the value of the **X** variable at the end of the following snippet?

```
int X = 1;

X = X + 2 * X;
X = X / 2 * X;
X = X + 2 + X;
```

Select one:

- a. 8
- b. 2
- c. 1
- d. 4

Question **4**

Complete

Mark 1.00 out of 1.00

What is function body?

Select one:

- a. is the type of the value returned by the function
- b. is the identifier by which the function can be called
- c. allows passing arguments to the function from the location where it is called from
- d. it is a block of statements surrounded by braces { } that specify what the function actually does
- e. There is no correct answer

Question **5**

Complete

Mark 1.00 out of 1.00

What is the size of short in bytes?

Select one:

- a. 2
- b. 4
- c. There is no correct answer
- d. 8
- e. 1

Question **6**

Complete

Mark 0.00 out of 1.00

What is NOT an advantage of using functions?

Select one:

- a. Extensibility
- b. High speed of execution
- c. Reusability of a code
- d. Good organization and management of code
- e. There is no correct answer

Question **7**

Complete

Mark 1.00 out of 1.00

What does the "break" do inside of a loop?

Select one:

- a. Stops the current iteration and starts the next
- b. Doesn't do anything
- c. Stops the loop and exits from it
- d. There is no correct answer
- e. Finishes the program execution

Question **8**

Complete

Mark 1.00 out of 1.00

A ..... is a special character ('\0', ascii code 0) used to indicate the end of the string.

Select one:

- a. There is no correct answer
- b. ascii code
- c. char
- d. slash zero
- e. null terminator

Question **9**

Complete

Mark 1.00 out of 1.00

What will be the sum after executing the following part of the code?

```
int twoDim[3][4] =
   {{1,2,3,4},
   {11,22,33,44},
   {111,222,333,444}};
int sum = 0;
for (int i =0; i<3; i++){
   sum+= twoDim[i][3-i];
}
```

Select one:

- a. 136
- b. 123
- c. 479
- d. 492
- e. 356
- f. 259

Question **10**

Complete

Mark 1.00 out of 1.00

A variable is ....., when pointer is .....

Select one:

- a. indirect reference / direct reference
- b. direct reference / indirect reference
- c. direct reference / direct reference
- d. There is no correct answer
- e. indirect reference / indirect reference

Question **11**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 2, j;
    for(j = 0; j < 0; j -= i)
            i /= 2;
    cout<<i + j;
    return 0;
}
```

Select one:

- a. the program outputs 2
- b. the program outputs 4
- c. the program outputs 1
- d. the program enters an infinite loop and does not output anything

Question **12**

Complete

Mark 0.00 out of 1.00

What is size of a given array: char s[] = "hello";

Select one:

- a. There is no correct answer
- b. 0
- c. 5
- d. 4
- e. 6

Question **13**

Complete

Mark 1.00 out of 1.00

What is the value of p?

```
#include <iostream>
 using namespace std;
 int main()
 {
     int p;
     bool a = true;
     bool b = false;
     int x = 10;
     int y = 5;
     p = ((x + y) + (a + b));
     cout << p;
 }
```

Select one:

- a. 0
- b. None of the mentioned
- c. 16
- d. 15

Question **14**

Complete

Mark 1.00 out of 1.00

What operator allows us to see what memory address is assigned to a variable?

Select one:

- a. !
- b. %
- c. *
- d. &
- e. There is no correct answer

Question **15**

Complete

Mark 1.00 out of 1.00

How to create a pointer to pointer?

Select one:

- a. int **ptr;
- b. There is no correct answer
- c. int &*ptr;
- d. int *ptr;
- e. int *&ptr;

Question **16**

Complete

Mark 1.00 out of 1.00

What is FALSE about passing argument by reference?

Select one:

- a. because a copy of the argument is not made, it is fast, even when used with large structs or classes
- b. There is no correct answer
- c. arguments passed by reference can be literals or expressions
- d. not copy but the actual variable is passed to the function
- e. it allows us to have the function change the value of the argument, which is sometimes useful

Question **17**

Complete

Mark 1.00 out of 1.00

How to create a pointer to pointer?

Select one:

- a. int *ptr;
- b. int &*ptr;
- c. There is no correct answer
- d. int **ptr;
- e. int *&ptr;

Question **18**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int fun(int *t) {
    return *(++t);
}
int main() {
    int arr[] = { 8, 4, 2, 1 };
    cout<<fun(arr + 2);
    return 0;
}
```

Select one:

- a. the program outputs 4
- b. the program outputs 1
- c. the program outputs 2
- d. the program outputs 8

Question **19**

Complete

Mark 0.00 out of 1.00

What are values of array: int x[5] = {0};

Select one:

- a. 5 5 5 5 5
- b. There is no correct answer
- c. 0 0 0 0 0
- d. 0 1 2 3 4
- e. 1 1 1 1 1

Question **20**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 1, j = 0, k;
    k = (j % i) + (i && j) + (!i || !j);
    cout<<k;
    return 0;
}
```

Select one:

- a. the program outputs 1
- b. the program outputs 2
- c. the program outputs 4
- d. the program outputs 0

Question **21**

Complete

Mark 1.00 out of 1.00

What will be output by executing the following code?

```
#include <iostream>
using namespace std;

int main() {

    double arr[] = {1.2, 2.3, 3.4};

    double *pa;
    pa = arr;

    *pa = 5.5;
    *(pa + 1) = *(pa + 2);
    cout << arr[0] <<" "<< arr[1] <<" "<< arr[2] << endl;

    return 0;
}
```

Select one:

- 5.5 3.4 3.4
- 5.5 2.3 3.4
- 1.2 3.4 2.3
- 5.5 2.3 2.3
- 1.2 2.3 3.4

Question **22**

Complete

Mark 1.00 out of 1.00

What will be the output if: int x[] = {7, 5, 6}; cout << *(x+2);

Select one:

- a. 7
- b. 5
- c. 6
- d. Will cause an error
- e. There is no correct answer

Question **23**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int i = 16, j = 8;
    do {
            i /= 2;
            j -= i / 2;
    } while(j > 0);
    cout<<i + j;
    return 0;
}
```

Select one:

- a. the program outputs 2
- b. the program enters an infinite loop and does not output anything
- c. the program outputs 4
- d. the program outputs 1

Question **24**

Complete

Mark 1.00 out of 1.00

How operators &(address-of) and *(dereference operator) are related to each other?

Select one:

- a. They have no relationship
- b. Operator & used to create a pointer, operator * to delete it
- c. There is no correct answer
- d. They are inverse of each other
- e. They are same

Question **25**

Complete

Mark 0.00 out of 1.00

What expression is TRUE if 'arr' is a an array name?

Select one:

- a. &arr = *arr
- b. *arr = &arr[0]
- c. arr = &arr[0]
- d. arr = arr[0]
- e. There is no correct answer

Question **26**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
void func(int *ptr) {
   int a = *ptr;
   a += a;
   ptr = &a;
}
int main()
{
   int a = 1;
   int *ptr = &a;
   func(ptr);
   cout << *ptr;
   return 0;
}
```

Select one:

- a. 2
- b. 1
- c. 3
- d. 4

Question **27**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
int main() {
    int t[4] = { 0, -1, -2, -3 }, *p = t + 3;
    cout<<p[*p] - t[2];
    return 0;
}
```

Select one:

- a. the program outputs 2
- b. the program outputs 4
- c. the program outputs 1
- d. the program outputs 8

Question **28**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;

int main ()
{
   cout << (1 > 2 ? 1 : 2) << ('a' > 'z' ? 'a' : 'z') << endl;
   return 0;
}
```

Select one:

- a. the program outputs 1z
- b. compilation error
- c. the program outputs 2a
- d. the program outputs 2z

Question **29**

Complete

Mark 1.00 out of 1.00

Which of the following is illegal?

Select one:

a.
```
string s, *sp = 0;
```

b.
```
int i; double* dp = &i;
```

c.
```
int *ip;
```

d.
```
float i; float* dp = &i;
```

Question **30**

Complete

Mark 1.00 out of 1.00

What happens if you try to compile and run this program?

```
#include <iostream>
using namespace std;
void f(int i) {
    i++;
}
int main() {
    int i = 1;
    f(i);
    cout << i;
    return 0;
}
```

Select one:

a. the program outputs an unpredictable value

b. the compilation fails

c. the program outputs 2

d. the program outputs 1

◄ Final Exam Practice (Example tasks) Jump to... Bonus ►