Questions

1. What's the output?

```
#include <iostream>
using namespace std;
void fun1(int a, int b, int c){
     a *= 5;
     b += 5;
     c -= 5;
}
int main() {
     int a = 10, b = 10, c = 10;
     fun1(a, b, c);
     cout << a << " " << b << " " << c <<
endl;
}
```

2. What's the output of this code??!

```
#include <iostream>
using namespace std;
void fun2(int &a, int &b, int &c) {
     a *= 5;
     b += 5;
     c -= 5;
}
int main() {
     int a = 10, b = 10, c = 10;
     fun2(a, b, c);
     cout << a << " " << b << " " << c <<
endl;
}
```

3. What's the output of this code??!

```
#include <iostream>
using namespace std;
void func1(int& a, int& b) {
     a ^= b;
     b ^= a;
     a ^= b;
}
int main(){
        int a = 2, b = 8;
     func1(a, b);
     cout << a << ' ' << b;
}
```

4. What's the output of this code(error or not and why ?.. if not , what)??!

```
#include <iostream>
using namespace std;
void func2(int a, int b) {
    cout << ((a % 2 and b % 2) ? "Yes" : "No");
}
int main(){
    func2(2,5);
}
```

5. What's the output of this code(error or not and why ?.. if not what will print)??!

```
#include<iostream>
using namespace std;
void fun(int n)
{
    cout<<n;
}
int main()
{
    int t=fun(3);
}
```

6. What's the output of this code(error or not and why ?.. if not what will print)??!

```
#include <iostream>
using namespace std;
void func4(int a, int b = 1) {
    cout << ((a = b) ? "YES" : "NO");
}
int main(){
        func4(3);
}
```

7. What's the output of this code(error or not and why ?.. if not what will print)??!

```
#include <iostream>
using namespace std;
void func5() {
     string s("ACM ASSUIT");
     for (int i = 0;s[i];i++) {
          cout << s[i];
     }
}
int main(){
                  func5();
}
```

8. What's the output of this code(error or not and why ?.. if not what will print)??!

```
#include <iostream>
using namespace std;
void func6() {

     cout << "\" I LOVE ACM ASSUIT \"";

}
int main(){
                  func6();
}
```

9. What's the output of this code(what's it calc)??!

```
#include <iostream>
using namespace std;
void func7(int a, int b) {
     cout << ((a + b) + abs(a - b)) / 2;
     cout << "\n";
     cout << ((a + b) - abs(a - b)) / 2;

}
int main(){
                    func7(5, -2);
}
```

10. What's the output of this code??!

```
#include <algorithm>
#include <iostream>
using namespace std;
void func8(string& s) {
     s.resize(unique(s.begin(), s.end()) - s.begin());
}
int main(){
        string s = "IIIIIIIII    LOOOOVEEEEEE    AACCCCMMM";
     func8(s);
     cout << s;
}
```

11. What's the output of this code??!

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

int fun(int x = 0, int y = 0, int
z)
{  return (x + y + z); }

int main(){
   cout << fun(10);
   return 0;
}
```

12. What's the output of this code??!

```
#include <iostream>
using namespace std;
void func(char ar[], int len) {
    for (int i = 0;i < len;i++) {
        if (ar[i] == 'b')ar[i] = 'z';
    }
}
int main()
{
    char arr[] = { 'a','b','a','b' };
    func(arr, 4);
    for (int i = 0;i < 4;i++) {
        cout << arr[i];
    }
    cout << '\n';
}
```

13. What's the output of this code??!

```
#include <iostream>
using namespace std;
void display(int m[5]) {
    cout << "Displaying marks: " << endl;
    for (int i = 0; i < 5; ++i) {
        cout << "Student " << i + 1 << ": " << m[i]
<< endl;
    }
}

int main() {
    int marks[5] = {88, 76, 90, 61, 69};
    display(marks);

    return 0;
}
```

14. From which function the execution of a C++ program starts?
    a. start() function
    b. main() function
    c. new() function
    d. fun() function

15. Which is more effective while calling the functions?
    a. call by value
    b. call by reference
    c. call by pointer

d. none of the mentioned

16. What is the minimum number of functions that need to be presented in c++?
    a. 0
    b. 1
    c. 2
    d. 3

17. What are the mandatory parts of the function declaration?
    a. The return type, function name
    b. The return type, function name, parameters
    c. parameters, function name
    d. parameters, variables

18. which of the following is used to terminate the function declaration?
    a. :
    b.)
    c. ;
    d.]

19. What is the size of void in bytes?!

20. What is the size of the int data type in CPP?!

21. Write a program that checks whether two integer arrays are the same, if they have the same size and values , then return value should be 1 otherwise 0.

22. Write a program to print the circumference and area of a circle of radius entered by the user by defining your own function.

23. Write a program that will ask the user to enter his/her marks (out of 100). Define a function that will display grades according to the marks entered as below:

	Marks	Grade
a.	(90:100]	AA
b.	(80:90]	AB
c.	(70:80]	BB
d.	(60:70]	BC
e.	(50:60]	CD
f.	(40:50]	DD
g.	[0:40]	Fail

24. Write a program to print the factorial of a number by defining a function named 'Factorial'.Factorial of any number n is represented by n! and is equal to 1*2*3*....*(n-1)*n

25. Write a C++ program which calculates the sum 1/1 + 1/2 + 1/3 + 1/4 + ... + 1/N.where N is a positive integer.

26. Write a C++ program with a function which checks whether a given string consists of digits only or not. If it is, return 1 otherwise 0.

27. Write a program in C++ to find the square of any number using the function example: 20 output: 400

28. Write a program in C++ to convert decimal number to hexadecimal number using the function example: 123458 output: 1E242

29. Write a program in C++ to check Armstrong's number using the function.An Armstrong number is an n-digit number that is equal to the sum of the n-th powers of its digits.If so, the return value should be 1 otherwise 0. example: 371 output: 1

30. Write a program in C++ to check whether two given strings are an anagram " a word or phrase formed by rearranging the letters of a different word or phrase". If so, the return value should be 1 otherwise 0. example: spare pears output: 1

Answers

1. 10 10 10 (pass by value)

2. 50 15 5 (pass by reference)

3. 8 2 (swapping using XOR)

4. No

5. Compilation Error

6. YES

7. ACM ASSUIT

8. " I LOVE ACM ASSUIT "(how to print quotes).

9.
   5
   -2
   It calc max and min of 2 integers without using loops or (max-min functions)

10. I LOVE ACM (search about "resize" & "unique").

11. Error

    Explanation: Default arguments should always be declared at the rightmost side of the parameter list but the above function has a normal variable at the rightmost side which is a syntax error, therefore the function gives an error.

12. azaz

13.

    Displaying marks:
    Student 1: 88
    Student 2: 76
    Student 3: 90
    Student 4: 61
    Student 5: 69

14. B. main() function

    Explanation: The execution of a C++ program starts from the main() function.

15. B .call by reference

    Explanation: In the call by reference, it will just copy the address of the variable to access it, so it will reduce the memory in accessing it.

16. B. 1

    Explanation: The main function is the mandatory part, it is needed for the execution of the program to start.

17. A. return type, function name

    Explanation: In a function, return type and function name are mandatory all else are just used as a choice.

18. C. ;

    Explanation: the semicolon is used to terminate a function declaration statement in C++.

19. Zero.

20. Depends on Compiler (If it is a 16 bits compiler like Turbo C++, the size is 2 bytes while if it is a 32-bit compiler like Dev-C++, g++ or Visual Studio, the size is 4 bytes.)

21:29 The solution is on GitHub