CODE WAR 2k17

Qualifiers Round — Language : C++ language

Time: 15 min — Marks: +2 for correct

Name: email: — (for mcq) -1 for Incorrect

*Tick the right answer for the objective questions. Write the code snippet only, wherever asked not the entire code.

Q1. Output of the code will be

```
#include<iostream>
using namespace std;
class Point {
        Point() { cout << "Constructor called"; }
        };

int main()
{
        Point t1;
        return 0;
}
```

A. Compiler Error
B. Runtime Error
C. “Constructor called”
D. Segmentation fault

Q2.

```
#include<iostream>
using namespace std;
class X
{
        public:
        int x;
};
int main()
{
   X a = {10};
   X b = a;
   cout << a.x << " " << b.x;
   return 0;
}
```

A. Compile Error because unknown syntax X a={10}
B. 10 10
C. Segmentation fault
D. None of the above

Q3. Look at the code given below:

```
int ar[]={2,2,4,5,6,7,7,9,8};
 int size=sizeof(ar)/sizeof(int);
int data=2;
int t=0;
for(int i=0;i<size;i++)
 {
        if(ar[i]!=data)
        {
                ar[t]=ar[i];

        }
        t++;
}
```

This is the standard example model of how the std::remove() of the algorithm header is defined (the real one uses generic templates). Identify the function definition.
If the function is fine then write the final state of the array?
If not fix the part that has the error. (only give a code snippet)

Q4.
```
#include<iostream>
#include<stdlib.h>
using namespace std;

    class Test
    {
            public:
            Test()
            { cout << "Constructor called"; }
    };
    int main()
    {
            Test *t = (Test *) malloc(sizeof(Test));
            return 0;
    }
```

What will happen for this one?
A. Constructor called
B. Nothing printed
C. Compilation error since malloc is exclusive to C
D. Runtime error due to illegal memory allocation

Q5.
```
#include <iostream>
using namespace std;
template <class T>
class Test
{
private:
   T val;
public:
   static int count;
   Test() {   count++;   }
};

template<class T>
int Test<T>::count = 0;

int main()
{
   Test<int> a;
   Test<int> b;
   Test<double> c;
   cout << Test<int>::count  <<" ";
   cout << Test<double>::count << endl;
   return 0;
}
```

The output will be:
A. 0 0
B. 1 1
C. 2 1
D. 1 0

Q6.
```
#include <iostream>
using namespace std;
template<int n> struct funStruct
    {
     static const int val = 2*funStruct<n-1>::val;
    };
template<> struct funStruct<0>
   {
    static const int val = 1 ;
   };
int main()
{
   cout << funStruct<10>::val << endl;
   return 0;
}
```

So what will be the output ?

_____

Q7. Suggest a data type to store this number in C++

18446744073709551615 Ans. _____

Q8.

```
#include <iostream>
#include<string.h>
using namespace std;
int main()
{

    char ar[]="hello";
    char ar2[]="hello";
    if(strcmp(ar,ar2))
       cout<<"equal";
}
```

what will be the output? If you find any error in the code you can fix it.

Q9.

```
#include <iostream>
using namespace std;
template <int i>
void fun()
{
  i = 20;
  cout << i;
}

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

Output will be ?

A. 10
B. 20
C. Runtime error
D. Compile time error

Q10. Assume int and pointers have size of 4bytes.

```
class Test
{
        static in x;
        int *ptr;
        int y;
}
int main()
{
        Test t;
        cout<<sizeof(t)<<"  ";
        cout<<sizeof(Test *);
}
```

What will be the output of this programme?

Q11
```
#include<iostream>
using namespace std;
class A
{
   int i;
public:
   A(int ii = 0) : i(ii) {}
   void show() {  cout << i << " ";  }
};

class B
{
   int x;
public:
   B(int xx) : x(xx) {}
   operator A() const {  return A(x); }
};

void g(A a)
{
   a.show();
}

int main()
{
   B b(10);
   g(b);
   g(20);
   return 0;
}
```

Output of the programme is ?

A. Compilation Error
B. 10 20
C. 20 20
D. 10 10

Q12
```
char str[]="hello";
char str2[6];
char *a=str,*b=str2;

// Write one line of code to copy the str to str2

_____________________________________________________________________
cout<<str2;
```

(** hidden bonus mark)

Q13.
```
int *a()
{   int x= 10;
    return (&x);
}
```

```
int *b()
{ int *px;
  px=10;
  return (&px);
}
```

```
int *c()
{ int *px;
  px= (int *)malloc(sizeof(int));
  *px=10;
  return (px);
}
```

Which one of the above three functions are likely to cause problems with pointers ?

A. Only a
B. Only a and c
C. Only b and a
D. Only c

Q14.
```
#include<iostream>
using namespace std;
int x = 1;
void fun()
{
  int x = 2;
  {
    int x = 3;
    cout << ::x << endl;
  }
}
int main()
{
  fun();
  return 0;
}
```

Write the output of the program?

_____

Q15. Look at the algorithm given:

```
int number=234;
int t=number,reversenum=0;
while(t!=0)
{
  reversenum=reversenum*10+t/10;
  t%=10;
}
```

What will be the state of reversenum after this . Is it the right output? if not suggest the fix