Day-8 Practice Questions (12th August 2020)

1. What will be the output of the following program?

```
#include<iostream>
using namespace std;
class Test
{
   int x;
   public:
   Test(int xx, float yy)
   {
      cout<<char(yy);
   }
};
int main()
{
   Test *p = new Test(35, 99.50f);
   return 0;
}
```

A. 99

B. ASCII value of 99

C. Garbage value

D. 99.50

Correct Answer: B

2. Which of the following statement is correct about the program given below?

```
#include<iostream>
using namespace std;
class Test
{
```

```
    public:
    Test()
    {
        cout<< "Lalit";
    }
    ~Test()
    {
        cout<< "Matoliya";
    }
};
int main()
{
    Test ob;
    return 0;
}
```

A. The program will print the output Lalit.

B. The program will print the output Matoliya.

C. The program will print the output LalitMatoliya.

D. The program will report compile time error.

Correct Answer: C

3. Which of the following statement is correct about the program given below?

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

```
{
   int x;
   public:
     Test();
    ~Test();
     void Show();
};
Test::Test()
{
   x = 25;
}
void Test::Show()
{
   cout<<x;
}
int main()
{
   Test ob;
   ob.Show();
   return 0;
}
```

A. The program will print the output 25.

B. The program will print the output Garbage-value.

C. The program will report compile time error.

D. The program will report runtime error.

Correct Answer: C

4. #include<iostream>

using namespace std;

```
class Test
{
    int x;
  public:
    Test();
    void Show();
    ~Test();
};
Test::Test()
{
  x = 5;
}
Test::~Test(){}
void Test::Show()
{
  cout<<x;
}
int main()
{
  Test ob;
  ob.Show();
  return 0;
}
```

A. The program will print the output 5.

B. The program will print the output Garbage-value.

C. The program will report compile time error.

D. The program will report runtime error.

Correct Answer: A

5. What will be the output of the following program?

```
#include<iostream>
using namespace std;
int val = 0;
class Test
{
   public:
   Test()
   {
      cout<<++val;
   }
   ~Test()
   {
      cout<<val--;
   }
};
int main()
{
   Test o1, o2, o3;
   {
      Test o4;
   }
   return 0;
}
```

A. 1234

B. 4321

C. 12344321

D. 12341234

E. 43211234

Correct Answer: C

6. Which of the following statement is correct about the program given below?

```
#include<iostream>
using namespace std;
class Test
{
   int *p;
   public:
   Test(int xx, char ch)
   {
      p  = new int();
      *p = xx + int(ch);
      cout<<*p;
   }
   ~Test()
   {
      delete p;
   }
};
int main()
{
   Test ob(10, 'B');
   return 0;
}
```

A. The program will print the output 76.

B. The program will print the output 108.

C. The program will print the output garbage value.

D. The program will report compile time error.

Correct Answer: A

7. Which of the following constructor is used in the program given below?

```
#include<iostream>
using namespace std;
class Test
{
   int x, y;
   public:
   Test(int xx = 10, int yy = 20 )
   {
      x = xx;
      y = yy;
   }
   void Display()
   {
      cout<< x << " " << y << endl;
   }
   ~Test()
   { }
};
int main()
{
   Test ob;
   ob.Display();
   return 0;
}
```

A. Copy constructor

B. Non-parameterized constructor

C. Default Argument constructor

D. None of these

Correct Answer: C

8. What will be the output of the following program?

```
#include<iostream.h>
class Base
{
   public:
   Base()
   {
      cout<< "Base OK. ";
   }
};
class Derived: public Base
{
   public:
   Derived()
   {
      cout<< "Derived OK. ";
   }
   ~Derived()
   {
      cout<< "Derived DEL. ";
   }
};
int main()
{
   Base    ob;
   Derived od;
   od.~Derived(); // To call destructor explicitly
   return 0;
```

}

A. Base OK. Derived OK. Derived DEL.

B. Base OK. Base OK. Derived OK. Derived DEL.

C. Base OK. Derived OK. Derived DEL. Derived DEL.

D. Base OK. Base OK. Derived OK. Derived DEL. Derived DEL.

E. The program will report compile time error.

Correct Answer: D

9. What will be the output of the following program?

```
#include<iostream>
using namespace std;
class Test
{
   int x, y;
   public:
   Test(int xx)
   {
      x = ++xx;
   }
   ~Test()
   {
      cout<<x - 1 <<" ";
   }
   void Display()
   {
      cout<<--x + 1 << " ";
   }
};
int main()
```

```
{
   Test ob(5);
   ob.Display();
   int *p = (int*)&ob;
   *p = 40;
   ob.Display();
   return 0;
}
```

A. 6 6 4

B. 6 6 5

C. 5 40 38

D. 6 40 38

E. 6 40 39

Correct Answer: D

10. Which of the following statement is correct about the program given below?

```
#include<iostream>
using namespace std;
class Test
{
   int x;
   public:
   Test(float ss)
   {
      cout<<"Float" <<endl;
   }
   Test(int xx)
   {
      cout<< "Int" << endl;
```

```
    }
    Test(char ch)
    {
        cout<< "Char" << endl;
    }
    ~Test()
    {
        cout<< "Final";
    }
};
int main()
{
    Test *ptr = new Test('B');
    return 0;
}
```

Correct Answer:

Programming Questions

1. Write a C++ program to print out all Armstrong numbers between 1 to 50000. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number. For example, 153 = (1*1*1) + (5*5*5) + (3*3*3).

2. A positive integer is entered through the keyboard. Along with it the base of the numbering system in which you want to convert this number is entered. Write a C++ program to display the number entered, the base, and the converted number. For example, if the input is 64 2 then the output should be 64 2 1000000. Similarly, if the input is 64 16, then the output should be 64 16 40.

3. Write a C++ program to generate all combinations of 1, 2 and 3 using for loop.

4. Write a C++ program to Print all the palindrome numbers from 200 to 300.

5. Write a C++ program to compute the real roots of a quadratic equation

ax^2 +bx +c =0

The roots are given by the equations

x1= -b + (sqrt(b^2-4ac)/2a)

x2= -b - (sqrt(b^2-4ac)/2a)

The program should request for the values of the constants a, b and c and print the values of x1

and x2. Use the following rules:

(a) No solution, if both a and b are zero

(b) There is only one root, if a=0 (x=-c/b)

(c) There are no real roots, if b^2-4ac is negative

(d) Otherwise, there are two real roots

Test your program with appropriate data so that all logical paths are working as per your design.

Incorporate appropriate output message.

1. How can we make a class abstract?

A. By making all member functions constant.

B. By making at least one member function as pure virtual function.

C. By declaring it abstract using the static keyword.

D. By declaring it abstract using the virtual keyword.

Correct Answer:

2. Which of the following statements is correct about the constructors and destructors?

A. Destructors can take arguments but constructors cannot.

B. Constructors can take arguments but destructors cannot.

C. Destructors can be overloaded but constructors cannot be overloaded.

D. Constructors and destructors can both return a value.

Correct Answer:

3. Which of the following access specifies is used in a class definition by default?

A. Protected

B. Public

C. Private

D. Friend

Correct Answer:

4. Which of the following statement is correct with respect to the use of friend keyword inside a class?

A. A private data member can be declared as a friend.

B. A class may be declared as a friend.

C. An object may be declared as a friend.

D. We can use friend keyword as a class name.

Correct Answer:

5. Which of the following statements about virtual base classes is correct?

A. It is used to provide multiple inheritance.

B. It is used to avoid multiple copies of base class in derived class.

C. It is used to allow multiple copies of base class in a derived class.

D. It allows private members of the base class to be inherited in the derived class.

Correct Answer:

6. How many objects can be created from an abstract class?

A. Zero

B. One

C. Two

D. As many as we want

Correct Answer:

7. Which of the following can be overloaded?

A. Object

B. Functions

C. Operators

D. Both B and C

Correct Answer:

8. Which of the following is the only technical difference between structures and classes in C++?

A. Member function and data are by default protected in structures but private in classes.

B. Member function and data are by default private in structures but public in classes.

C. Member function and data are by default public in structures but private in classes.

D. Member function and data are by default public in structures but protected in classes.

Correct Answer:

9. Which of the following statements are correct for a static member function?

1. It can access only other static members of its class.
2. It can be called using the class name, instead of objects.

A. Only 1 is correct.

B. Only 2 is correct.

C. Both 1 and 2 are correct.

D. Both 1 and 2 are incorrect.

Correct Answer:

10. What will be the output of the following program?

```
#include<iostream>
using namespace std;
struct MyData
{
   public:
   int Addition(int a, int b = 10)
   {
      return (a *= b + 2);
   }
   float Addition(int a, float b);
};
int main()
{
   MyData data;
   cout<<data.Addition(1)<<" ";
   cout<<data.Addition(3, 4);
   return 0;
}
```

A. 12 12

B. 12 18

C. 3 14

D. 18 12

E. Compilation fails.

Correct Answer: