Review answers

Start date:	10 minutes ago
Complete date:	1 minute ago
Question 1:	Which statement is false about an abstract class? ✓ Abstract classes cannot be instantiated. ○ Abstract classes enable us to work uniformly with a set of related classes. ○ Abstract classes can only have function declarations, no function implementations. ○ Abstract classes can contain member data.
Question 2:	Which statement is false about interfaces? ✓ A function working with an interface can work with any set of unrelated classes as long as they implement that interface. ○ There is not interface construct in C++ but they can be emulated using abstract classes/functions. ○ Interfaces can be used instead of inheritance when there is no 'ISA' relation. ○ Interfaces are allowed to provide default implementations.
Question 3:	Which statement is true about destructors and inheritance? ✓ Destructors must be virtual so that derived class objects in a base class variable will be deleted correctly. ○ Destructors must be virtual because the canonical header file requires that. ○ The system provided destructor is always called correctly. ○ Destructors must be virtual so that the base class destructor is called when a derived class object is removed from memory.
Question 4:	Which statement is true about aggregation (open diamond shape in UML) and composition (filled diamond shape in UML)

◯ Aggregation embeds multiple objects while composition only embeds one object.
◯ With aggregation the lifetime of the embedded object is the same as the 'outer' object while with composition the lifetime can be different.
◯ There is no difference between aggregation and composition.
✓ With composition the lifetime of the embedded object is the same as the 'outer' object while with aggregation the lifetime can be different.

Question 5: Which statement is true about inheritance?

◯ Friends of the base class are also friends of the derived class.
◯ Operator functions of the base class are not inherited.
◯ All member of the base class are inherited.
✓ All members of the base class are inherited except the constructors, destructor and assignment operator.

Question 6: Which statement is false about aggregation?

◯ Aggregation can hide the functionality of the aggregated object.
◯ Aggregation is a special kind of inheritance.
✓ Aggregation is often combined with delegation to delegate functionality to another object.
◯ With aggregation you create an object that consists of one or more other objects.

Question 7: What is the output of the following program?

C++:

```
1  class A
2  {
3  private:
4    int m_da;
5
6  public:
7    A(int da): m_da(da) {}
8    int GetA() { return m_da; }
9    A& operator = (const A& source)
10   { m_da=source.m_da; return *this; }
11 };
12
13 class B: public A
14 {
15 private:
16   int m_db;
```

- ○ 10, 20
- ○ 30, 20
- ○ 30, 40
- ✓ 10, 40

Question 8: Which of the options below implements the default constructor of class B that calls the default constructor of base class A?

- ✓ B::B(): A() { }
- ○ B::B(): super() { }
- ○ B::B(): () { }
- ○ B::B(): base() { }

Question 9: What is the output of the following program?

C++:

```
1  class A
2  {
3  public:
4    std::string F() { return "A"; }
5  };
6
7  class B: public A
8  {
9  public:
10   std::string F() { return "B"; }
11 };
12
13 int main()
14 {
15   A a; B b;
16   A* ap;
```

- ○ This code does not compile.
- ○ A, A, A, A
- ○ A, B, A, B
- ✓ A, B, A, A

Question 10: What is the output of the following program?

C++:

```
1  class A
2  {
3  private:
4    virtual int GetValue() { return 10; }
5
6  public:
7    int Calculate() { return GetValue()*1.5; }
8  };
9
10 class B: public A
11 {
12 private:
13   virtual int GetValue() { return 20; }
14 };:
```

- ○ 30, 30
- ✓ 15, 30
- ○ This program does not compile.
- ○ 15, 15

Score:	7 (70.00%)
Pass/Fail:	Failed

Quiz ›