QuantNet

Z

Quiz >

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++:

```
class A
{
private:
  int m_da;

public:
  A(int da): m_da(da) {}
  int GetA() { return m_da; }
  A& operator = (const A& source)
  { m_da=source.m_da; return *this; }
};

class B: public A
{
private:
  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++:

```cpp
class A
{
public:
  std::string F() { return "A"; }
};

class B: public A
{
public:
  std::string F() { return "B"; }
};

int main()
{
  A a; B b;
  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++:

```
class A
{
private:
  virtual int GetValue() { return 10; }

public:
  int Calculate() { return GetValue()*1.5; }
};

class B: public A
{
private:
  virtual int GetValue() { return 20; }
};
```

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

Score: 7 (70.00%)

Pass/Fail: Failed

Quiz ›

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