Capitulo 10

This activity contains 22 questions.

1. *Section 10.2 const (Constant) Objects and const Member Functions*

10.2 Q1: Which of the following statements will not produce a syntax error?

- *Defining a const member function that modifies a data member of the object.*
- *Declaring an object to be const.*
- *Declaring a constructor to be const.*
- *Invoking a non-const member function on a const object.*

2. *10.2 Q2: The code fragment:*

```
Increment::Increment( int c, int i )
   : increment ( i )
{
   count = c;
}
```

does not cause any compilation errors. This tells you that:

- *count must be a const variable.*
- *count must be a non-const variable.*
- *increment must be a non-const variable.*
- *increment must be a const variable.*

3. *Section 10.3 Composition: Objects as Members of Classes*

10.3 Q1: When composition (one object having another object as a member) is used:

- *Member objects are constructed first, in the order they are declared in the host's class.*
- *Member objects are destructed last, in the order they are declared in the host's class.*
- *Member objects are constructed first, in the order they appear in the host constructor's initializer list.*
- *The host object is constructed first and then the member objects are placed into it.*

4. *10.3 Q2: An error occurs if:*

- *An object data member does not have a default constructor.*
- *An object data member is not initialized in the member initialization list.*
- *An object data member is not initialized in the member initialization list and does not have a default constructor.*
- *A non-reference, non-const, primitive data member is initialized in the member initialization list.*

5. *Section 10.4 friend Functions and friend Classes*

10.4 Q1:

```
If the line:
friend class A;
appears in class B,  and the line:
friend class B;
appears in class C,  then:
```

- *Class B can access class A's private variables.*
- *Class A can access private variables of class B.*
- *Class A is a friend of class C.*
- *Class C can call class A's private member functions.*

6. *10.4 Q2: Which of the following is not true about friend functions and friend classes?*

- *A class can either grant friendship to or take friendship from another class using the friend keyword.*
- *A friend declaration can appear anywhere in a class definition.*
- *A friend of a class can access all of its private data member and member functions.*
- *The friendship relationship is neither symmetric nor transitive.*

7. *Section 10.5 Using the this Pointer*

10.5 Q1: For a non-constant member function of class Test, the this pointer has type:

- *const Test *.*

- *Test const *.*
- *Test * const.*
- *const Test * const.*

8. *10.5 Q2: Inside a function definition for a member function of an object with data element x, which of the following is not equivalent to this->x:*

- *(* (& (*this))).x.*
- **this.x.*
- *x.*
- *(*this).x.*

9. *10.5 Q3: Assume that t is an object of class Test, which has member functions a(), b(), c() and d(). If the functions a(), b() and c() all return references to an object of class Test (using the dereferenced this pointer) and function d() is declared void, which of the following statements will not produce a syntax error:*

- *t.a().t.d();.*
- *t.a().b().d();.*
- *a().b().t;.*
- *t.d().c();.*

10. *Section 10.6 Dynamic Memory Management with Operators new and delete*

10.6 Q1: Which of the following is false about the new operator and the object for which it allocates memory?

- *It automatically destroys the object after main is exited.*
- *It does not require the size of the object to be explicitly specified in the new expression.*
- *It calls the object's constructor.*
- *It returns a pointer.*

11. *10.6 Q2: The delete operator:*

- *Can delete an entire array of objects declared using new.*

- *Must be told which destructor to call when destroying an object.*
- *Can terminate the program.*
- *Is called implicitly at the end of a program.*

12. *Section 10.7 static Class Members*

10.7 Q1: If Americans are objects of the same class, which of the following attributes would most likely be represented by a static variable of that class?

- *Age.*
- *Place of birth.*
- *The President.*
- *Favorite food.*

13. *10.7 Q2: static data members of a certain class:*

- *Can be accessed only if an object of that class exists.*
- *Have class scope.*
- *Can only be changed by static member functions.*
- *Cannot be changed, even by objects of the same that class.*

14. *10.7 Q3: static member functions:*

- *Can only access other static member functions and static data members.*
- *Can use the this pointer.*
- *Cannot be called until an object of their class is instantiated.*
- *Can be declared const as well.*

15. *Section 10.8 Data Abstraction and Information Hiding*

10.8 Q1: Which of the following is not an abstract data type?

- *An int.*
- *An ASCII character.*
- *A used-defined class.*
- *A for loop.*

16. *10.8 Q2: Which of the following are true about an abstract data type?*

I. Captures a data representation.
II. Defines the operations that are allowed on its data.
III. Replaces structured programming.

- *I and III.*
- *II and III.*
- *I and II.*
- *I, II and III.*

17. *Section 10.8.1 Example: Array Abstract Data Type*

10.8.1 Q1: Which of the following capabilities do "raw" C++ arrays not provide?

- *"Raw" arrays do not provide any of the above capabilities.*
- *Array comparison.*
- *Subscript range checking.*
- *Dynamic size expansion to accommodate more elements.*

18. *Section 10.8.2 Example: String Abstract Data Type*

10.8.2 Q1: Instead of including a string data type among C++'s built-in data types, C++: a. Was designed to include mechanisms for creating and implementing string abstract data types through classes.

- *Was designed to include mechanisms for creating and implementing string abstract data types through classes.*
- *Forces the programmer to make do with char array strings.*
- *Chose to ignore the need for a string data type.*
- *None of the above.*

19. *Section 10.8.3 Example: Queue Abstract Data Type*

10.8.3 Q1: The numbers 3, 2, 5, 7 are enqueued in a queue in that order, then three numbers are dequeued, and finally 3, 7, 9, 4 are enqueued in that order. What is the first number in the queue (the next number to be dequeued)?

- *4.*
- *3.*
- *9.*
- *7.*

20. *Section 10.9 Container Classes and Iterators*

10.9 Q1: Which of the following is not a type of container (collection) class?

- *Linked lists.*
- *Stacks.*
- *floats.*
- *Arrays.*

21. *Section 10.10 Proxy Classes*

10.10 Q1: Proxy classes are best described as an example of:

- *Information hiding.*
- *Utility functions.*
- *Structured programming.*
- *Object-oriented programming (as used in the text).*

22. *10.10 Q2: In addition to hiding the implementation details that the ordinary method of "separating implementation from interface" would hide, using a proxy class also hides:*

- *The definition of constructors and the destructor.*
- *The definition of access functions.*
- *The names of private data members.*
- *The definition of inline functions.*

Clear Answers / Start Over Submit Answers for Grading

Answer choices in this exercise appear in a different order each time the page is loaded.