1. True/False

T/F: A well designed program depends on particular techniques to be used in its classes/objects, that is to say, a solution should be designed around the modes of operation used within its modules, resulting in a highly coupled system.

Answer: False, modules should be loosely coupled; a solution should not depend on the use of particular techniques in the project’s smaller components. Clients should not operate based on how the modules they utilize accomplish a task. (pages 5, 12)

1. Multiple Choice

Which of the following is not listed as one of the “three principles of object-oriented programming?”

1. Encapsulation: objects contain data and operations.
2. Pointing: objects can reference memory addresses to directly access data.
3. Polymorphism: objects can determine appropriate operations at execution time.
4. Inheritance: Classes can inherit properties from other classes.

Answer: C. Pointing is not listed as one of the “three principles of object-oriented programming.” (page 4)

1. Fill in the Blank

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ specify the state that program data should be in before a function executes for the function to execute properly; \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ specify the state that program data should be in upon the completion of the execution of a function.

Answer: Pre-conditions; Post-conditions. (page 7)

1. Short Answer or Code

Write only the class declaration for a derived template class (do not write the code that would appear in the { } braces, simply write them as they would appear if no code was written inside them). The derived class should be called DerivedClass and the base class should be named BaseClass. Both the derived and base classed should be templates that use type DataType. The access specifier should be as restrictive as possible.

Answer:

template <class DataType>

class DerivedClass: private BaseClass<DataType> {};

Note: typename may be used instead of class in the first line of this code segment.

(page 41)