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ICS410-01 (071)

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Quiz # 4
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Question 1:

(11 points)

Mark as TRUE or False:

Smalltalk was the first language to offer partial support for object oriented programming.

The main advantage of the reuse of abstract data types is that, in nearly all cases, the features and capabilities of the existing type are not quite right for the new use.

A problem with programming with abstract data types is that the type definitions are all dependent and are at different levels.

Inheritance offers a solution to both the modification problem posted by abstract data type reuse and the program organization problem.

Inheritance provides a framework for the definition of hierarchies of related classes that can reflect the descendant relationships in the problem space.

One disadvantage of inheritance as a means of increasing the possibility of reuse is that it creates a dependency among the classes in an inheritance hierarchy.

One purpose of dynamic binding is to allow software systems to be more easily extended during both development and maintenance.

A class that does not include abstract method is called an abstract class.

From a purely semantics point of view, if a derived class **is-a** parent class, then objects of the derived class must be behaviorally equivalent to objects of the parent class.

A polymorphic variable can reference objects of the parent class and the descendant classes.

One of the primary motivations for nesting class definitions is information distribution.

Question 2: _____ **(3 points)**

What are the three characteristic features of object-oriented languages?

Question 3: _____ **(6 points)**

List six design issues used in this chapter for object-oriented languages.

Question 4: _____ **(Bonus 6 points)**

Evaluate either Java or C# according to the six design issues for object-oriented languages.