Chapter 14

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Short Answer

1. What’s encapsulation?

**Encapsulation is the combining of data and code into a single object**.

1. Why is an object’s internal data usually hidden from outside code?

**The data is protected from accidental corruption**

8.Look at the following pseudocode, which is the first line of a class definition. What is the name of the superclass? What is the name of the subclass?

Class Tiger Extends Felis

Class is the fine line of the class definition, The super class is Felis and the subclass is Tiger

Algorithm Workbench

2. Look at this partial class definition , and then follow the subsequent instructions:

Class Book

Private String title

Private String author

Private String publisher

Private Integer copiesSold

End Class

1. Write a constructor for this class. The constructor should accept an argument for each of the fields.
2. Write an accessor and mutator methods for each field.
3. Draw a UML diagram for the class, including the methods you have written.

// Constructor

Constructor(title, author, publisher , copies\_sold)

Set this.title to title

Set this.author to author

Set this.publisher to publisher

Set this.copiesSold to copies\_sold

// Accessor methods

Method getTitle()

Return this.title

Method getAuthor()

Return this.author

Method getPublisher()

Return this.publisher

Method getCopiesSold()

Return this.copiesSold

//Mutator methods

Method setAuthor(author)

Set this.author to author

Method setPublisher(publisher)

Set this.publisher to publisher

Method setCopiesSold(copies\_sold)

Set this.copiesSold to copies\_sold

5. Look at the following pseudocode class definitions:

Class Plant

Public Module message()

Display “I’m a plant.”

End Module

End Class

Class Tree Extends Plant

Public Module message()

Display “I’m a tree.”

End Module

End Class

Given these class definitions, what will the following pseudocode display?

Declare Plant p

Set p = New Tree()

Call p.message()

The message will display “I’m a tree”