Lab Workbook 9

Software Development HDSWD
FileHandling, Inheritance & Polymorphism
13/07/12

Jonathan Meaney

Each of the following problems will build up an application for creating storing and displaying notes.

Problem 1:

Create a class called Note. This class has 3 data members. Title and body are strings and id is an integer. Create the default and overloaded constructors and getter and setter methods.

Create a method in this class called toString which returns a string containing the values of the data members. The format for the returned string is:

"title: "+title+" body: "+"body+" id: "+id

Create a method called displayNote that returns nothing. This method creates a message dialog using the JOptionPane class and displays the value of the toString method as its message. Remember to import javax.swing into the class.

Problem 2:

Create a second class called CollegeNote. This class extends Note so make sure to add the extends Note to the CollegeNote class definition. CollegeNote has one additional data member, a string called module.

Create the default and overloaded constructors for this class making sure to call super inside. Create a third constructor which accepts 4 parameters, title, body, id and module. Inside this constructor place title, body and id inside the super method. Set the module the same was as you normally would a data member. Using super like this is calling the overloaded constructor of the superclass so the data members that CollegeNote are inheriting can be assigned values.

Create a method in this class called toString which returns a string containing the values of the data members. The format for the returned string is:

"module: "+module

Create a method called displayNote that returns nothing. This method creates a message dialog using the JOptionPane class and displays the value of the Note toString method and CollegeNote toString method as its message. To access the Note toString method just call super.toString(). This calls the to String method of the super class, the Note class. Remember to import javax.swing into the class.

Problem 3:

Create a third class called BookNote that extends Note. This class is very similar to the CollegeNote class except it has a different data member. BookNote has one data member, a string called BookTitle. Repeat the same steps from problem 2 for the BookNote. Constructors, getters and setters, toString method and displayNote method.

Problem 4:

Create a main class and create 2 CollegeNote objects and 2 BookNote objects and 2 Note objects, giving all the data members values.

Create an ArrayList of type Note called notes and add these 6 objects to the ArrayList.

Problem 5:

Iterate through the ArrayList of objects using a for loop. For each object in the ArrayList call its displayNote method.

Problem 6:

In the main method create a try catch block that saves the ArrayList of note objects to a file called notes.data make sure to add "implements Serializable" to the Note class.

Problem 7:

In the main method create a second try catch block that saves the titles of each note in the ArrayList to a file called titles.txt