Internet Programming 300130

WORKSHOP-2

This workshop will not be marked.

EXERCISE 2.1

Quadrilateral Inheritance Hierarchy

Write an inheritance hierarchy for class Quadrilateral, Trapezoid, Parallelogram, Rectangle, and Square. Use Quadrilateral as the superclass of the hierarchy. Create and use a Point class to represent the points in each shape. Make the hierarchy as deep (i.e. as many levels) as possible. Specify the instance variable and methods for each class. The private instance variables of Quadrilateral should be the x-y coordinate pairs for the four endpoints of the Quadrilateral. Write a program that instantiates objects of your classes and outputs each object's area (except Quadrilateral).

The sample code is available at the unit website.

EXERCISE 2.2

Payroll System Using Polymorphism : A Case Study

Download, compile and run the programs about payroll calculations. Study how it uses an abstract method and polymorphism to perform payroll calculations. The Employee hierarchy diagram is given below.
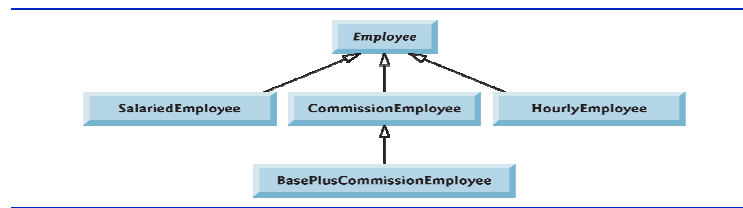
Fig. 10.2 | Employee hierarchy UML class diagram.

The code is available at the unit website. Compile the java programs by:

javac BasePlusCommissionEmployee.java
javac CommissionEmployee.java
javac Employee.java
javac HourlyEmployee.java
javac SalariedEmployee.java
javac PayrollSystemTest.java

And execute the code by

Java PayrollSystemTest