CSE110: Object Oriented Programming Language
Section: 7

Time: 80 minutes (Problem Solving + Submission)

1. Design a class named Stock that contains:
   ■ A string data field named symbol for the stock's symbol.
   ■ A string data field named name for the stock's name.
   ■ A double data field named previousClosingPrice that stores the stock price for the previous day.
   ■ A double data field named currentPrice that stores the stock price for the current time.
   ■ A constructor that creates a stock with the specified symbol and name.
   ■ A method named getChangePercent() that returns the percentage changed frompreviousClosingPrice to currentPrice.

   Write a test program (in the form of main method) that creates a Stock object with the stock symbol ORCL, the name Oracle Corporation, and the previous closing price of 34.5. Set a new current price to 34.35 and display the price-change percentage.

2. Design a class named Fan to represent a fan. The class contains:
   ■ A private int data field named speed that specifies the speed of the fan (1 for slow, 2 for medium and 3 for fast. The default is slow).
   ■ A private boolean data field named on that specifies whether the fan is on (the default is false).
   ■ A private double data field named radius that specifies the radius of the fan (the default is 5).
   ■ A string data field named color that specifies the color of the fan (the default isblue).
   ■ The getter and setter methods for all four data fields.
   ■ A no-arg constructor that creates a default fan.
   ■ A method named toString() that returns a string description for the fan.
   If the fan is on, the method returns the fan speed, color, and radius in one com-bined string.
   If the fan is not on, the method returns the fan color and radius along with the string "fan is off" in one combined string.

   Write a test program that creates two Fan objects. Assign maximum speed (max), radius 10, color yellow, and turn it on to the first object. Assign medium speed, radius 5, color blue, and turn it off to the second object. Display the objects by invoking their toString method.

Instructions:

1. Make sure you write your student ID and name at the top of your .java file as comment. Then just submit the files in classroom. You do not need to rename them.

2. In no way you are to share your code with anyone during the online. In case of such violation, both the receiver and the provider will be treated as equally responsible and the both will be penalized -100%.