Department of Mathematics & Computer Science

CSC 230-01 Modern Prog Applications Spring 2018

Assignment 7

What to hand in

Create a folder called “Assignment_7”. Inside the folder, create a folder for each program and deposit the source code to the corresponding folder. **For each program, write the comments to generate documents. Save it to a doc directory in each program folder.**

Use packing software to pack “Assignment_7” to a packed file, such as “Assignment_7.zip” or “Assignment_7.tar”. Submit the packed file through the blackboard.

Due Date

12:00 midnight, April 20, 2017.

Program 1: Inheritance, complete the following code

```
public class Shape
{
 //put your code here
}

public class Square extends Shape
{
 //put your code here
}

public class Rectangle extends Shape
{
 //put your code here
}

public class Test
{
 public static void main(String args[])
 {


        //create a scanner
        Scanner scan = new Scanner(System.in);

              //Square object
              Square s = new Square("Square");
              double edge;
              edge = scan.nextDouble();
              System.out.println("Enter the edge length of the square:")
              s.setEdge(edge);
              System.out.printf("Area of %s: %f\n", s.getType(), s.getArea());

              //Rectangle object
              Rectangle r = new Rectangle("Rectangle");
              double width, height;
              System.out.println("Enter the width of the rectangle:");
              width = scan.nextDouble();
              System.out.println("Enter the height of the rectangle:");
              height = scan.nextDouble();
              r.setWidth(width);
              r.setHeight(height);
              System.out.println("Area of %s: %f\n", r.getType(), r.getArea();
        }
}
```

Program 2: Polymorphism, complete the following code

```
public interface Car
{
  public String getModel();
  public void setModel(String);

  public String getProducer();
  public void setProducer(String);

  public String toString();
  }


public class Buick implements Car
{
}


public class Honda implements Car
{
}


public class Test
{
  public static void display(Car c)
  {
         System.out.println("Car information:");
         System.out.println(c.toString());
  }

  public static void main(String args[])
         {
                Car b = new Buick("GM", "Century");
                Car c = new Honda("Honda", "Accord");
         }
  }
```

Grading Criteria

1. 40%, be able to be compiled without compile errors.
2. 30%, be able to run and generate the expected outputs.
3. 20%, documents.