Comp Sci Homework 9/9/15

R2.1. Classes are the definitions of what certain objects can be while objects are individual instances with the definitions of its class type.

R2.4. 0

R2.5. Int mystery is declared twice

R2.6. “=” is an assignment operator rather than a comparative operator meaning that it makes one value equal to another rather than testing the two values of equality.

E2.3.

/\*

\* Rectangle42.java

\* Hunter Damron

\* I did this

\* Purpose: creates rectangle with area of 42 sq

\* units and rectangle with perimeter of 42 units

\* then prints output

\*/

**package** E23;

**import** java.awt.Rectangle;

**public** **class** Rectangle42 {

**public** **static** **void** main(String[] args)

{

Rectangle area, perimeter; //Rectangle with area of 42

area = **new** Rectangle(10,10,6,7);

perimeter = **new** Rectangle(10,10,11,10);

**double** h = area.getHeight();

**double** w = area.getWidth();

System.***out***.println("Rectangle area has dimensions " + h + " x " + w);

h = perimeter.getHeight();

w = perimeter.getWidth();

System.***out***.println("Rectangle perimeter has dimensions " + h + " x " + w);

}

}

Expected Output:

Rectangle area has dimensions 7.0 x 6.0

Rectangle perimeter has dimensions 10.0 x 11.0

E2.4.

/\*

\* AddTester.java

\* Hunter Damron

\* I did this

\* Purpose: Use Rectangle add() method and prints new position and dimensions

\*

\* Program in book should print new rectangle with upper left-hand corner at (0,0)

\*/

**package** E24;

**import** java.awt.Rectangle;

**public** **class** AddTester {

**public** **static** **void** main(String[] args) {

Rectangle box = **new** Rectangle(5, 10, 20, 30);

box.add(0, 0);

System.***out***.println("Expected output of box: Position - (0,0) ; Width - 20 ; Height - 30");

System.***out***.println("Actual Output of box: " + box + "\nOops, I was wrong... add() function brings the nearest point to the specified coordinate");

}

}

Expected Output:

Expected output of box: Position - (0,0) ; Width - 20 ; Height - 30

Actual Output of box: java.awt.Rectangle[x=0,y=0,width=25,height=40]

Oops, I was wrong... add() function brings the nearest point to the specified coordinate

E2.5.

/\*

\* ReplaceTester.java

\* Hunter Damron

\* I did this

\* Purpose: Encodes input by changing i's to !'s and s's to $'s

\*/

**package** E25;

**public** **class** ReplaceTester {

**public** **static** **void** main(String[] args) {

String input = "Mississippi";

System.***out***.println("Initial input: Mississippi");

input = input.replace("i", "!");

input = input.replace("s", "$");

System.***out***.println("Expected output: M!$$!$$!pp!\nActual output: " + input);

}

}

Expected Output:

Initial input: Mississippi

Expected output: M!$$!$$!pp!

Actual output: M!$$!$$!pp!

E2.6.

/\*

\* HollePrinter.java

\* Hunter Damron

\* I did this

\* Purpose: Takes input then changes e's into o's and o's into e's

\*/

**package** E26;

**public** **class** HollePrinter {

**public** **static** **void** main(String[] args) {

String input = "Hello, World!";

input = input.replace("e", "☻");

input = input.replace("o", "e");

input = input.replace("☻", "o");

System.***out***.println("Expected output: Holle, Werld!");

System.***out***.println("Actual output: " + input);

}

}

Expected Output:

Expected output: Holle, Werld!

Actual output: Holle, Werld!

E2.11.

/\*

\* DieSimulator.java

\* Hunter Damron

\* I did this

\* Purpose: Generates a random number between 1 and 6

\* to emulate a six-sided die being rolled

\*/

**package** E211;

**import** java.util.Random;

**public** **class** DieSimulator {

**public** **static** **void** main(String[] args) {

Random rand = **new** Random();

System.***out***.print("The die rolled: ");

**int** output;

output = rand.nextInt(6) + 1;

System.***out***.print(output);

}

}

Expected Output:

The die rolled: 2

(number will vary but stay between 1 and 6)