R2.1 Objects are entities in my program that I manipulate by calling methods. A class describes a set of objects with the same behavior.

R2.5 0

R2.8 method that has an argument of type int: println(5);

method that has an argument of type String: print(“asd”);

method that has a return value of type int: "Hello, World!".length();

method that has a return value of type String: nextLine();

R2.9 String aString = "Hello";

aString = aString.ToUpperCase();

R2.12 Objects are entities in my program that I manipulate by calling methods. An object variable (that is, a variable whose type is a class) does not actually hold an object. It merely holds the memory location of an object. The object itself is stored elsewhere. Object variables store references.

R2.13 new Rectangle(5, 10, 20, 30)//is new a class? •The new operator makes a Rectangle object •It uses arguments (in this case, 5, 10, 20, and 30) to initialize the data of the object •It returns the object.

Rectangle box = new Rectangle(5, 10, 20, 30); //Multiple object variables can refer to the same object: Rectangle box = new Rectangle(5, 10, 20, 30); Rectangle box2 = box;

R2.14 a. new Rectangle(75, 75, 50, 50)

b. “Hello, Dave” //String is an object (They’re not object variables but objects!!)

R2.15 a. Rectangle box = new Rectangle(75, 75, 50, 50);

b. String aSrting = “Hello, Dave”; (They’re object variables!!)

R2.16 Rectangle square = new Rectangle(10, 20, 40, 40);

square.translate(10, 0);

R2.17 Rectangle square1 = new Rectangle(0, 0, 40, 40);

Rectangle square2 = square1;

R2.18 (a)The argument can’t be stored in a Rectangle class. It should be Rectangle r = new Rectangle(5, 10, 15, 20);

(b) It’s missing the new operator. It should be

double width = new Rectangle(5, 10, 15, 20).getWidth();

(c) We haven’t created any object and r.translate(15,25); can’t do anything without an object. It should be Rectangle r = new Rectangle(); r.translate(15,25);

(d) In the first line, we haven’t stated which class r belongs to. In the second line, we can’t have string in translate(int, int)

R2.19 Two accessor methods: getWidth(), getX()

Two mutator methods: translate(), setSize()

E2.2 package perimeter;

import java.awt.Rectangle;

public class perimeter2 {

public static void main(String[] args){

Rectangle box = new Rectangle(10, 20, 30, 40);

double perimeter = 2 \* box.getWidth() + 2 \* box.getHeight();

System.out.print("The perimeter of the rectangle is: ");

System.out.println(perimeter);

System.out.println("Expected answer: 140.0");

}

}

E2.7 String Astring = "Hello, World!".replace("e", "@");

String Bstring = Astring.replace("o", "e");

String Cstring = Bstring.replace("@", "o");

E2.8 System.***out***.println(**new**StringBuilder("desserts").reverse().toString());

System.***out***.println("EXPECTED: stressed");

// or StringBuilder aStrin = **new** StringBuilder("desserts");

StringBuilder bstring = aStrin.reverse();

System.***out***.println(bstring.toString());

System.***out***.println("EXPECTED: stressed");

E2.12 System.out.println(new Random().nextInt(6) + 1);

//Random die = **new** Random();

System.***out***.println(die.nextInt(6) + 1);

Re-write E2.7 System.***out***.println("Hello, World!".replace("e", "@").replace("o", "e").replace("@", "o"));

E4.6 **import** java.util.Scanner;

**public** **class** prompt4 {

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

Scanner kbd = **new** Scanner(System.***in***);

System.***out***.print("Enter meter: ");

**double** meter = kbd.nextDouble();

**double** mile = meter / 1609.34;

**double** feet = mile \* 5280;

**double** inch = feet \* 12;

System.***out***.println("The number of miles:" + mile);

System.***out***.println("The number of feet:" + feet);

System.***out***.println("The number of inch:" + inch);

}

}