1

(a)

1. Class members can be accessed using public methods that return the variables usually called getters methods or directly access public variables.

Car car = new Car();

String c = car.getColor(); // returns the variable which holds the value of the color of the car

Double cash = car.price; // directly accessing public instance variable.

1. Private variables can be accessed using getters methods.

Cat cat = new Cat();

String breed = cat.getBreed; // String breed is private in Class Cat

(b)

default – visible only to the package.

private – accessible only in the class, used internally only in a class

protected – accessible only within package and sub classes.

public – accessible anywhere the class is used.

(c)

(i) Cat cat = new Cat(); // Creates a Cat object and initializes it using the default constructer

(ii)

(d)

public class Rectangle {

double length;

double width;

public Rectangle(){

length = 1;

width = 1;

}

public Rectangle(double length, double width) {

this.length = length;

this.width = width;

}

public double getLength() {

return length;

}

public double getWidth() {

return width;

}

public void setLength(double length) {

this.length = length;

}

public void setWidth(double width) {

this.width = width;

}

public double calculatePerimeter(){

double p = 2\*length\*width;

return p;

}

public double calculateArea(){

return (width\*length);

}

}