1. Analyze the class Square to answer the questions:
   1. Does it store any value/instance variable?
   2. List each method and explain what each method does.
   3. Why the method setSide needs to use this.side? What “this” means in that context?

public class Square {  
 private int side;  
 public Square(){  
 setSide(0);  
 }  
 public void setSide(int side){  
 this.side = side;  
 }  
 public int getSide(){  
 return side;  
 }  
 public int calculateArea(){  
 return side \* side;  
 }  
 public String toString(){  
 return "Side: " + side;  
 }  
}

1. Analyze the class AppSquare to answer the questions:
   1. Does it store any value/instance variables?
   2. What the main method is doing?
   3. Where the setSide method from Square is being called? Why is this called like that?
   4. Where the getSide method from Square is being called? Why is this called like that?

import java.util.Scanner;  
  
public class AppSquare {  
 public static void main(String args[]){  
 Square sq1 = new Square();  
 Scanner in = new Scanner(System.*in*);  
 System.*out*.println("Do you want to run the program (y/n)");  
 char answer = in.nextLine().charAt(0);  
 while(answer != 'n'){  
 System.*out*.println("Enter a side:");  
 int side = in.nextInt();  
 System.*out*.println("Current side of the square: " + sq1.getSide());  
 System.*out*.println("Changing the side of the Square:");  
 sq1.setSide(side);  
 System.*out*.println("New side of the square: " + sq1.getSide());  
 int area = sq1.calculateArea();  
 System.*out*.println("Area : " + area + " " + sq1.toString());  
 System.*out*.println("Do you want to run the program (y/n)");  
 in.nextLine();  
 answer = in.nextLine().charAt(0);  
 }  
 }  
}

1. Implement the method numberOfCharInString and do a call to that method in the main method.

import java.util.Scanner;  
public class AppStrings {  
 public static void main(String args[]){  
 Scanner in = new Scanner(System.*in*);  
 System.*out*.print("Enter a string: ");  
 String msg = in.nextLine();  
 System.*out*.println("Enter a char:");  
 char c = in.nextLine().charAt(0);  
 *//call the method numberOfCharInString* }  
 */\*\*  
 \* numberOfCharInString  
 \* Method finds and return the number of times  
 \* that char c is in String str  
 \* @param c  
 \* @param str  
 \* @return int  
 \*/* public static int numberOfCharInString(char c, String str){

return 0;  
 }  
}

1. Write the exact output of this program.

public class StringFormatProgram {

public static void main(String[] args) {

int value1 = 12;

double value2 = 25.75986;

String color = "red";

int len = color.length();

System.out.println("Length of color: " + len);

System.out.println("First letter of color: " + color.charAt(0));

System.out.printf("%d\n", value1);

System.out.printf("%.2f\n", value2);

System.out.printf("%20.2f\n", value2);

System.out.printf("%s\n", color);

System.out.printf("%S\n", color);

}

}