

Name(s): \_\_\_\_\_

1. Analyze the class Square to answer the questions:
  - a. Does it store any value/instance variable?
  - b. List each method and explain what each method does.
  - c. 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;
    }
}

```

2. Analyze the class AppSquare to answer the questions:
  - a. Does it store any value/instance variables?
  - b. What the main method is doing?
  - c. Where the setSide method from Square is being called? Why is this called like that?
  - d. 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 sql = 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: " + sql.getSide());
            System.out.println("Changing the side of the Square:");
            sql.setSide(side);
            System.out.println("New side of the square: " + sql.getSide());
            int area = sql.calculateArea();
            System.out.println("Area : " + area + " " + sql.toString());
            System.out.println("Do you want to run the program (y/n)");
            in.nextLine();
            answer = in.nextLine().charAt(0);
        }
    }
}

```

## CS 163/164 – Classes, Objects, Loops Review

Name(s): \_\_\_\_\_

### 3. 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;
    }
}
```

### 4. 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);
    }
}
```