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Branch: AIML   **Section/Group: 21AML-9, A**

Semester: 3rd

Subject Name: Programming in Java   **Subject Code: 21CSH-244**

1. **Experiment Title/Problem Statement:** Write a program in java with class Rectangle with the data fields width, length, area and color. The length, width and area are of double type and color is of string type. The methods are set_length(), set_width(), set_color(), and find_area(). Create two object of Rectangle and compare their area and color. If area and color same for the objects then display "Matching Rectangles" otherwise display "Non matching Rectangle".

2. Algorithm:
- Declare the needed variables.
- Create the rectange class and make all the functions for setting length, color, width and area calculation.
- Create another class and to create two objects of the rectangle class to compare them.
- Display the output.

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3. Code:

J Rectangle.java > rect

```java
import java.util.*;

class Rectangle{
    double length,width,area;
    String color;
    Scanner sc = new Scanner(System.in);
    void set_length(){
        System.out.println(x: "Enter length: ");
        length = sc.nextDouble();
    }
    void set_width(){
        System.out.println(x: "Enter width: ");
        width = sc.nextDouble();
    }
    void find_area(){
        area = length*width;
        System.out.println("Area = "+area);
    }
    void set_color(){
        System.out.println(x: "Enter color: ");
        color = sc.next();
    }
}

class rect{
    Run | Debug
    public static void main(String args[]){
        Rectangle rec1 = new Rectangle();
        Rectangle rec2 = new Rectangle();
        System.out.print(s: "1st Rect: \n");
        rec1.set_length();
        rec1.set_width();
        rec1.set_color();
        rec1.find_area();
        System.out.print(s: "2nd Rect: \n");
        rec2.set_length();
        rec2.set_width();
```

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```
35          rec2.set_length();
36          rec2.set_width();
37          rec2.set_color();
38          rec2.find_area();
39          if(rec1.area==rec2.area && rec1.color.equals(rec2.color)){
40              System.out.println(x: "Matching rectangles");
41          }
42          else{
43              System.out.println(x: "Non-matching rectangles");
44          }
45      }
46  }
```

4. Output:

```
PS C:\CODE\Clg\JavaLab_Sem3> j
1st Rect:
Enter length:
1
Enter width:
2
Enter color:
white
Area = 2.0
2nd Rect:
Enter length:
1
Enter width:
2
Enter color:
white
Area = 2.0
true
Matching rectangles
```

```
PS C:\CODE\Clg\JavaLab_Sem3> java re
1st Rect:
Enter length:
1
Enter width:
2
Enter color:
white
Area = 2.0
2nd Rect:
Enter length:
2
Enter width:
3
Enter color:
black
Area = 6.0
false
Non-matching rectangles
PS C:\CODE\Clg\JavaLab Sem3> javac 1
```

5. Learning Outcomes:

- Objects in java.

- Classes in java.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			