

Brandon London Project 1

1)

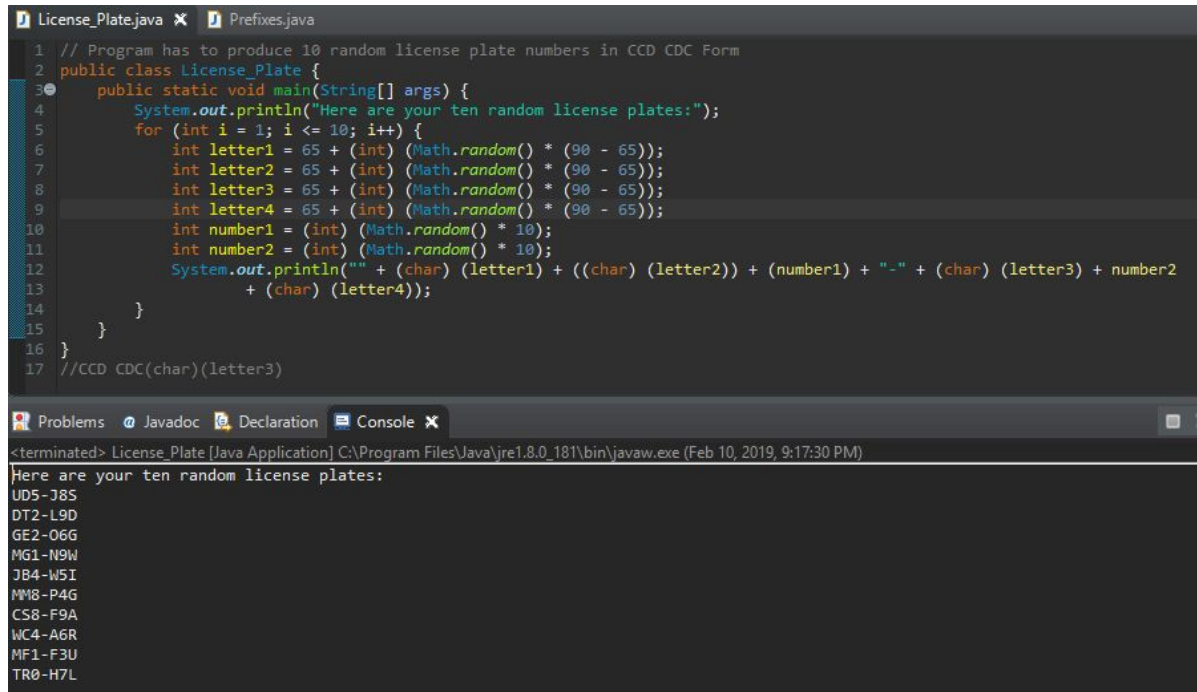
```
1
2 // Program has to tell wither a circle overlaps, is in the circle, or are separate
3 import java.util.Scanner;
4
5 public class Circles {
6     public static void main(String[] args) {
7         Scanner input = new Scanner(System.in);
8         System.out.print("Enter circle1's center x-, y-coordinates, and radius: ");
9         double x1 = input.nextDouble();
10        double y1 = input.nextDouble();
11        double r1 = input.nextDouble();
12        System.out.print("Enter circle2's center x-, y-coordinates, and radius: ");
13        double x2 = input.nextDouble();
14        double y2 = input.nextDouble();
15        double r2 = input.nextDouble();
16        input.close();
17        if (Math.pow(Math.pow(x2 - x1, 2) + Math.pow(y2 - y1, 2), 0.5) <= Math.abs(r1 - r2))
18            System.out.println("circle2 is inside circle1");
19        else if (Math.pow(Math.pow(x2 - x1, 2) + Math.pow(y2 - y1, 2), 0.5) <= r1 + r2)
20            System.out.println("circle2 overlaps circle1");
21        else
22            System.out.println("circle2 does not overlap circle1");
23    }
24 }
```

```
Enter circle1's center x-, y-coordinates, and radius: 0.5
5.1
13
Enter circle2's center x-, y-coordinates, and radius: 1
1.7
4.5
circle2 is inside circle1
```

```
Enter circle1's center x-, y-coordinates, and radius: 3.4
5.5
1
Enter circle2's center x-, y-coordinates, and radius: 5.5
7.2
1
circle2 does not overlap circle1
```

```
Enter circle1's center x-, y-coordinates, and radius: 3.4
5.7
5.5
Enter circle2's center x-, y-coordinates, and radius: 6.7
3.5
3
circle2 overlaps circle1
```

2)



The screenshot shows an IDE with two tabs: 'License_Plate.java' and 'Prefixes.java'. The 'License_Plate.java' tab is active, displaying the following code:

```
1 // Program has to produce 10 random license plate numbers in CCD CDC Form
2 public class License_Plate {
3     public static void main(String[] args) {
4         System.out.println("Here are your ten random license plates:");
5         for (int i = 1; i <= 10; i++) {
6             int letter1 = 65 + (int) (Math.random() * (90 - 65));
7             int letter2 = 65 + (int) (Math.random() * (90 - 65));
8             int letter3 = 65 + (int) (Math.random() * (90 - 65));
9             int letter4 = 65 + (int) (Math.random() * (90 - 65));
10            int number1 = (int) (Math.random() * 10);
11            int number2 = (int) (Math.random() * 10);
12            System.out.println("" + (char) (letter1) + ((char) (letter2)) + (number1) + "-" + (char) (letter3) + number2
13                               + (char) (letter4));
14        }
15    }
16 }
17 //CCD CDC(char)(letter3)
```

Below the code editor, the 'Console' tab is active, showing the output of the program:

```
<terminated> License_Plate [Java Application] C:\Program Files\Java\jre1.8.0_181\bin\javaw.exe (Feb 10, 2019, 9:17:30 PM)
Here are your ten random license plates:
UD5-J8S
DT2-L9D
GE2-O6G
MG1-N9W
JB4-W5I
MM8-P4G
CS8-F9A
WC4-A6R
MF1-F3U
TR0-H7L
```

3)

```

1 //Project 1/src/License_Plate.java
2 //Program has to tell whether or not the prefix is the same.
3 import java.util.Scanner;
4
5 public class Prefixes {
6     public static void main(String[] args) {
7         Scanner input = new Scanner(System.in);
8         System.out.print("Enter the first string: ");
9         String s1 = input.nextLine();
10        System.out.print("Enter the second string: ");
11        String s2 = input.nextLine();
12        input.close();
13        int index = 0;
14        String prefix = "";
15        while (s1.charAt(index) == s2.charAt(index)) {
16            prefix += s1.charAt(index);
17            index++;
18        }
19        if (prefix.length() > 0)
20            System.out.println("The common prefix is " + prefix);
21        else
22            System.out.println(s1 + " and " + s2 + " have no common prefix");
23    }
24 }
25
26

```

<terminated> Prefixes [Java Application] C:\Program Files\

```

Enter the first string: atlanta
Enter the second string: macon
atlanta and macon have no common prefix

```

```

Enter the first string: Welcome to C++
Enter the second string: Welcome to programming
The common prefix is Welcome to

```