

2)

```
import java.util.*;
```

```
public class Main {
```

```
    public static void main(String[] args) throws Exception {
```

```
        Scanner sc = new Scanner(System.in);
        System.out.println("Author:D.Aditya Varma\nSAP ID:51834693");
        System.out.println("Enter the first string:");
        String input = sc.nextLine();
```

```
        System.out.println("Enter the second string:");
        String rotation = sc.nextLine();
```

```
        if (checkRotatation(input, rotation)) {
            System.out.println(input + " and " + rotation
                               + " are rotation of each other");
        } else {
            System.out.println("they are not rotation of another");
        }
```

```
        sc.close();
    }
```

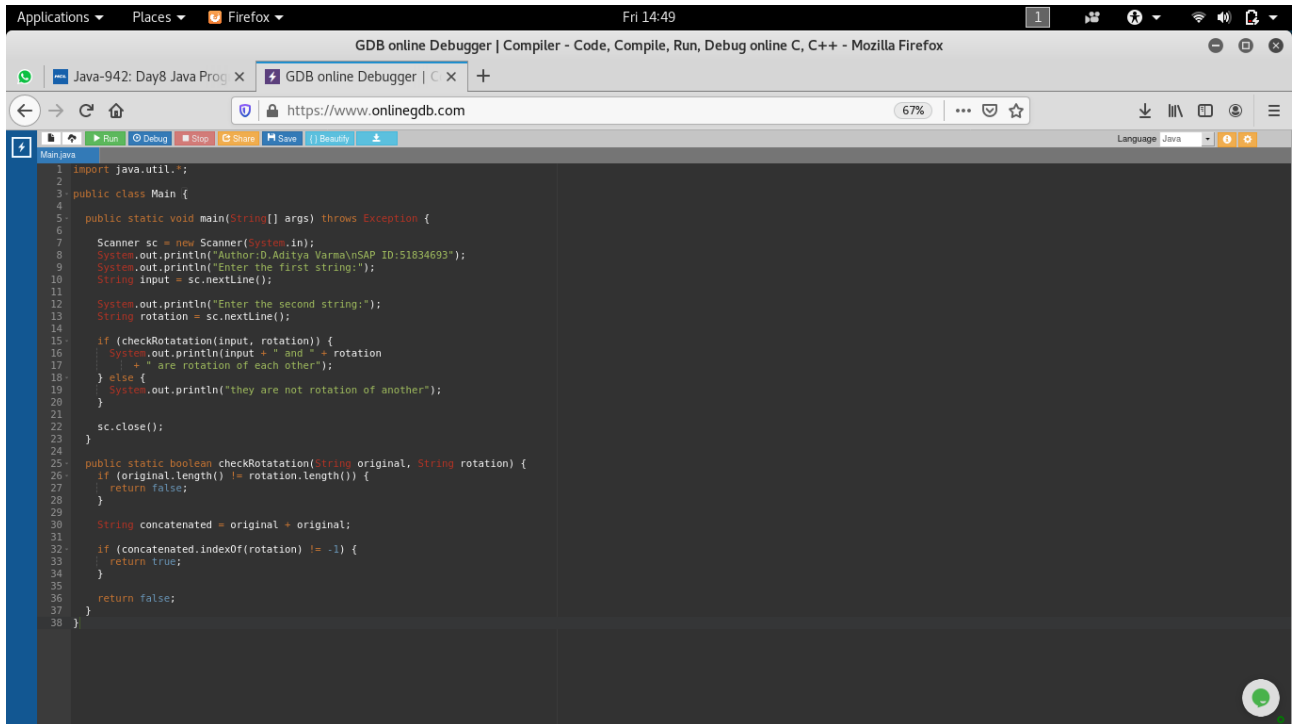
```
    public static boolean checkRotatation(String original, String rotation) {
        if (original.length() != rotation.length()) {
            return false;
        }
```

```
        String concatenated = original + original;
```

```
        if (concatenated.indexOf(rotation) != -1) {
            return true;
        }
```

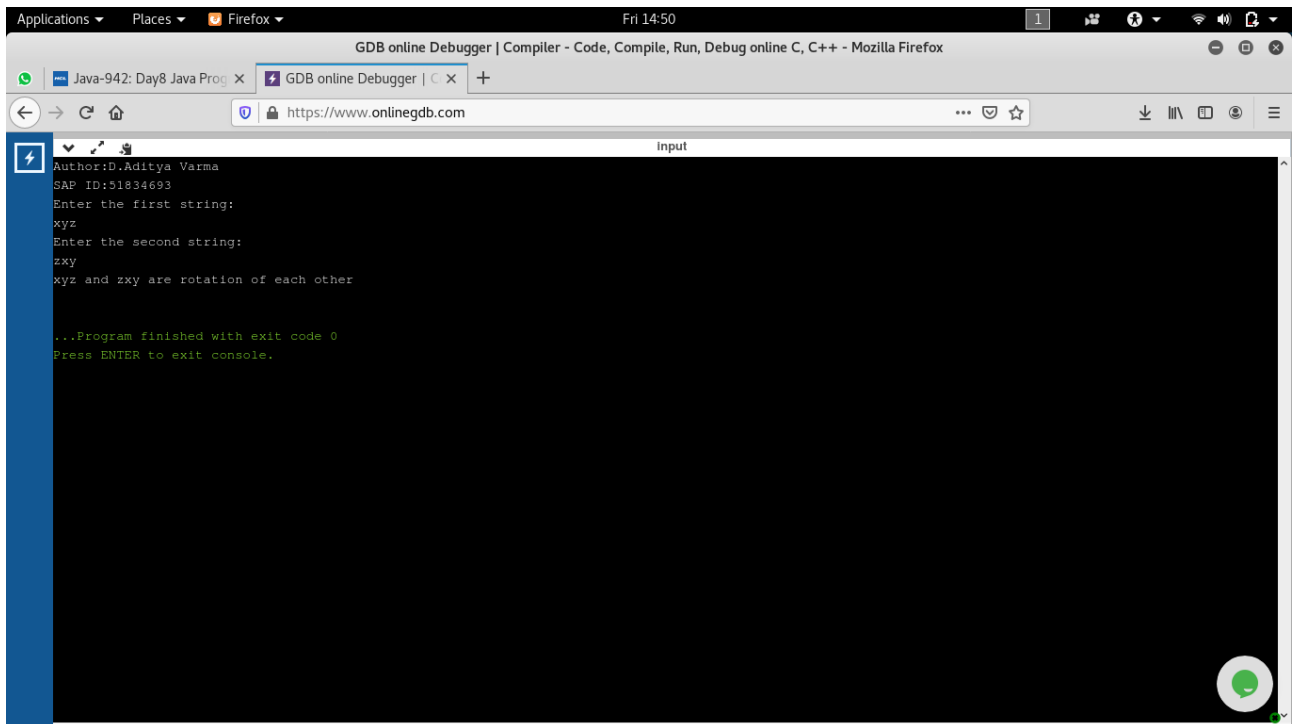
```
        return false;
    }
}
```

Input:



```
1 import java.util.*;
2
3 public class Main {
4
5     public static void main(String[] args) throws Exception {
6
7         Scanner sc = new Scanner(System.in);
8         System.out.println("Author:D.Aditya Varma\nSAP ID:51834693");
9         System.out.println("Enter the first string:");
10        String input = sc.nextLine();
11
12        System.out.println("Enter the second string:");
13        String rotation = sc.nextLine();
14
15        if (checkRotation(input, rotation)) {
16            System.out.println(input + " and " + rotation
17                + " are rotation of each other");
18        } else {
19            System.out.println("they are not rotation of another");
20        }
21
22        sc.close();
23    }
24
25    public static boolean checkRotation(String original, String rotation) {
26        if (original.length() != rotation.length()) {
27            return false;
28        }
29
30        String concatenated = original + original;
31
32        if (concatenated.indexOf(rotation) != -1) {
33            return true;
34        }
35
36        return false;
37    }
38 }
```

Output:



```
Author:D.Aditya Varma
SAP ID:51834693
Enter the first string:
xyz
Enter the second string:
zxy
xyz and zxy are rotation of each other

...Program finished with exit code 0
Press ENTER to exit console.
```

5)

```
import java.util.Arrays;
```

```
class Main
```

```
{
    public static void swap(int[] arr, int a, int b)
    {
        int temp = arr[a];
        arr[a] = arr[b];
        arr[b] = temp;
    }

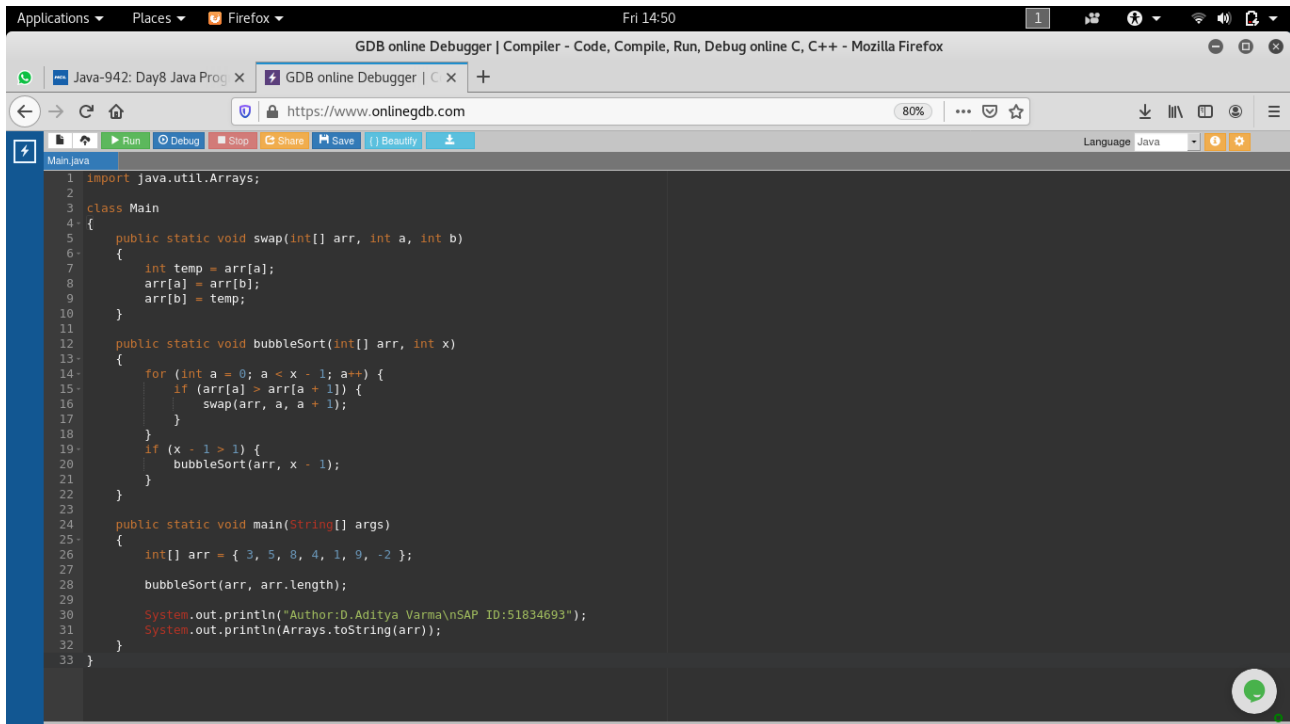
    public static void bubbleSort(int[] arr, int x)
    {
        for (int a = 0; a < x - 1; a++) {
            if (arr[a] > arr[a + 1]) {
                swap(arr, a, a + 1);
            }
        }
        if (x - 1 > 1) {
            bubbleSort(arr, x - 1);
        }
    }

    public static void main(String[] args)
    {
        int[] arr = { 3, 5, 8, 4, 1, 9, -2 };

        bubbleSort(arr, arr.length);

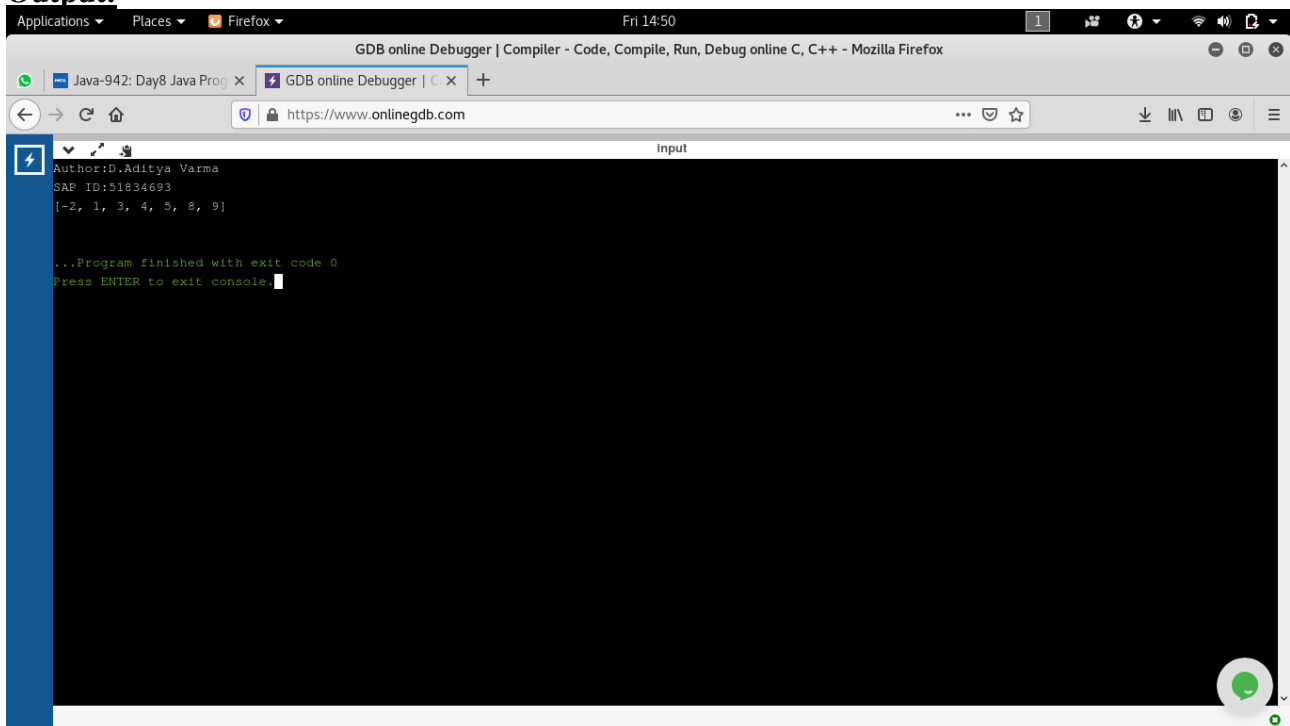
        System.out.println("Author:D.Aditya Varma\nSAP ID:51834693");
        System.out.println(Arrays.toString(arr));
    }
}
```

Input:



```
1 import java.util.Arrays;
2
3 class Main
4 {
5     public static void swap(int[] arr, int a, int b)
6     {
7         int temp = arr[a];
8         arr[a] = arr[b];
9         arr[b] = temp;
10    }
11
12    public static void bubbleSort(int[] arr, int x)
13    {
14        for (int a = 0; a < x - 1; a++) {
15            if (arr[a] > arr[a + 1]) {
16                swap(arr, a, a + 1);
17            }
18        }
19        if (x - 1 > 1) {
20            bubbleSort(arr, x - 1);
21        }
22    }
23
24    public static void main(String[] args)
25    {
26        int[] arr = { 3, 5, 8, 4, 1, 9, -2 };
27
28        bubbleSort(arr, arr.length);
29
30        System.out.println("Author:D.Aditya Varma\nSAP ID:51834693");
31        System.out.println(Arrays.toString(arr));
32    }
33 }
```

Output:



```
Author:D.Aditya Varma
SAP ID:51834693
[-2, 1, 3, 4, 5, 8, 9]

...Program finished with exit code 0
Press ENTER to exit console
```

