SHIFA KHAN
21BBS0255

JAVA PROGRAMMING
LA - 1

Q1 Get a string from the user and perform the following

a) Take the last char and return a new string with the last char added at the front and back.("bat"->"tbatt")

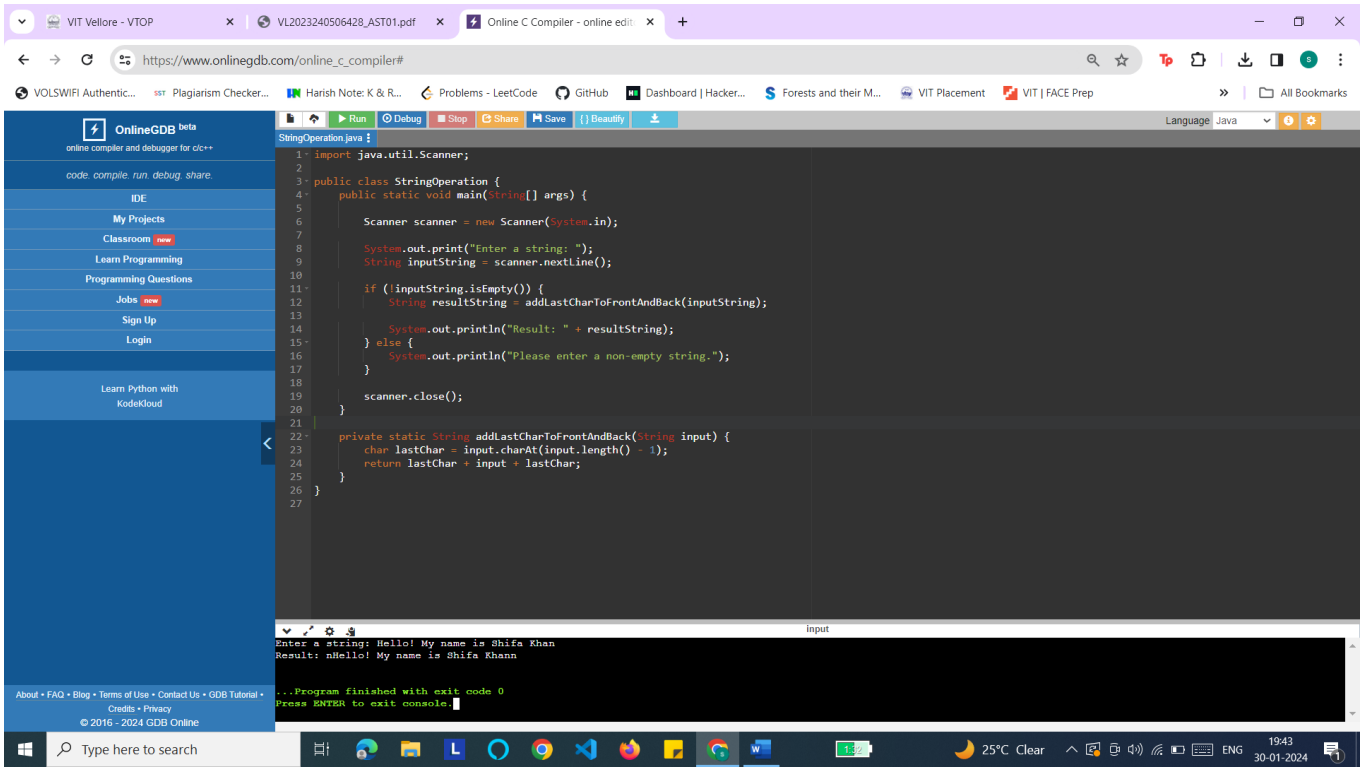
CODE:

```
import java.util.Scanner;


public class StringOperation {
    public static void main(String[] args) {


        Scanner scanner = new Scanner(System.in);


        System.out.print("Enter a string: ");
        String inputString = scanner.nextLine();


        if (!inputString.isEmpty()) {
            String resultString = addLastCharToFrontAndBack(inputString);


            System.out.println("Result: " + resultString);
        } else {
            System.out.println("Please enter a non-empty string.");
        }


        scanner.close();
    }


    private static String addLastCharToFrontAndBack(String input) {
        char lastChar = input.charAt(input.length() - 1);
        return lastChar + input + lastChar;
    }
}
```

OUTPUT:

```
Enter a string: Hello! My name is Shifa Khan
Result: nHello! My name is Shifa Khann


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

SCREENSHOT:



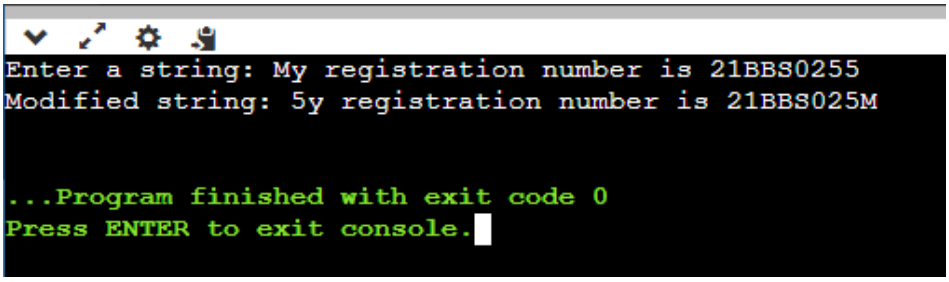
b) Return a new string where the first and last chars have been exchanged. (“bat”- >”tab”)

CODE:

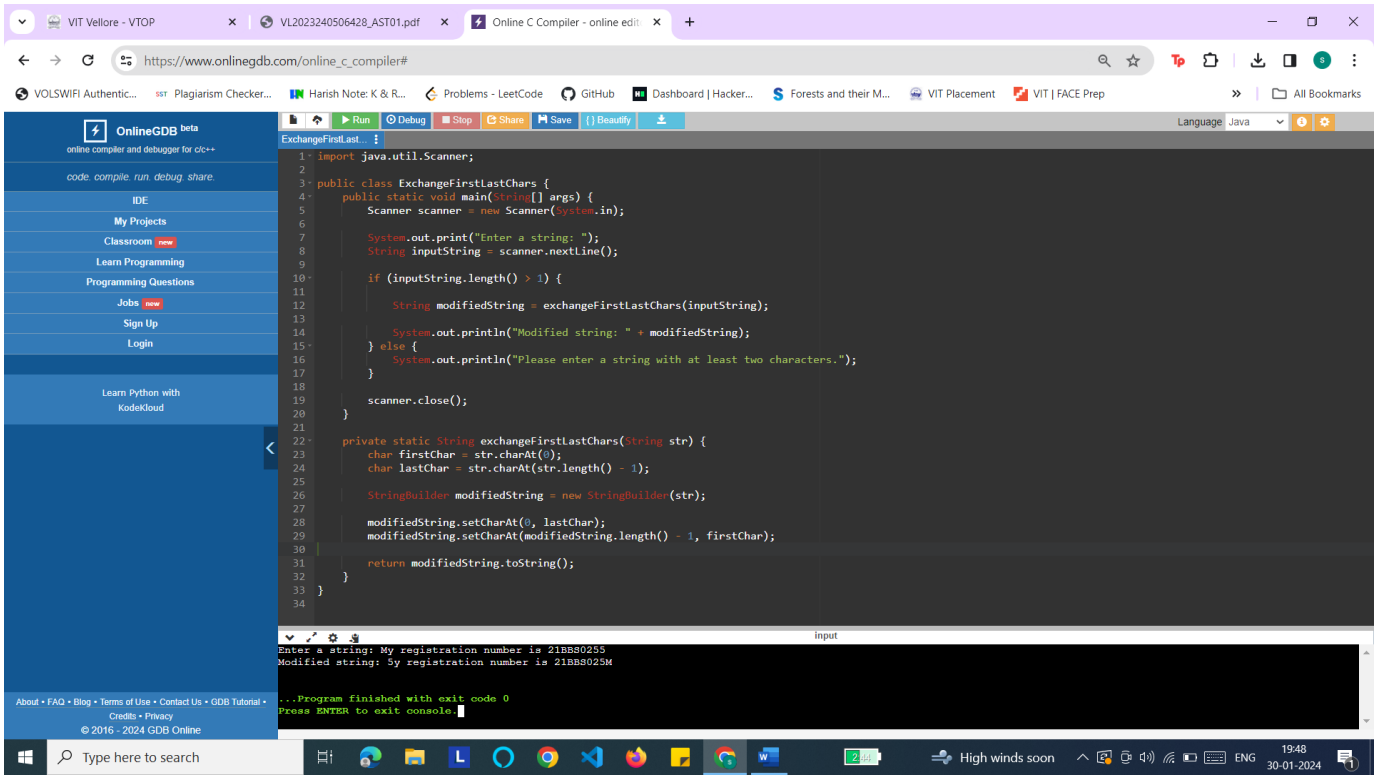
```
import java.util.Scanner;


public class ExchangeFirstLastChars {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);


      System.out.print("Enter a string: ");
      String inputString = scanner.nextLine();


      if (inputString.length() > 1) {


         String modifiedString = exchangeFirstLastChars(inputString);
```

```
            System.out.println("Modified string: " + modifiedString);
        } else {
            System.out.println("Please enter a string with at least two characters.");
        }

        scanner.close();
    }

    private static String exchangeFirstLastChars(String str) {
        char firstChar = str.charAt(0);
        char lastChar = str.charAt(str.length() - 1);

        StringBuilder modifiedString = new StringBuilder(str);

        modifiedString.setCharAt(0, lastChar);
        modifiedString.setCharAt(modifiedString.length() - 1, firstChar);

        return modifiedString.toString();
    }
}
```

OUTPUT:



SCREENSHOT:



Q2 Write a Java program to do the following tasks.

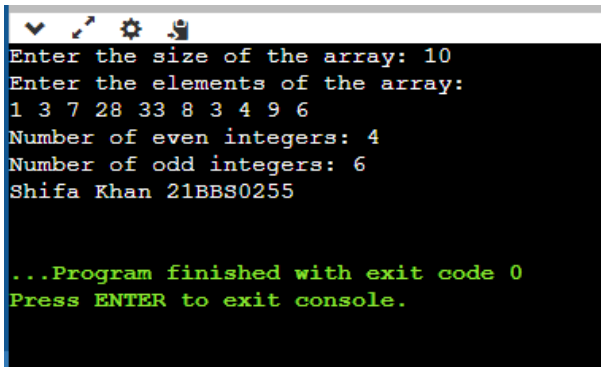
a) Write a Java program to find the number of even and odd integers in a given array of integers.

CODE:

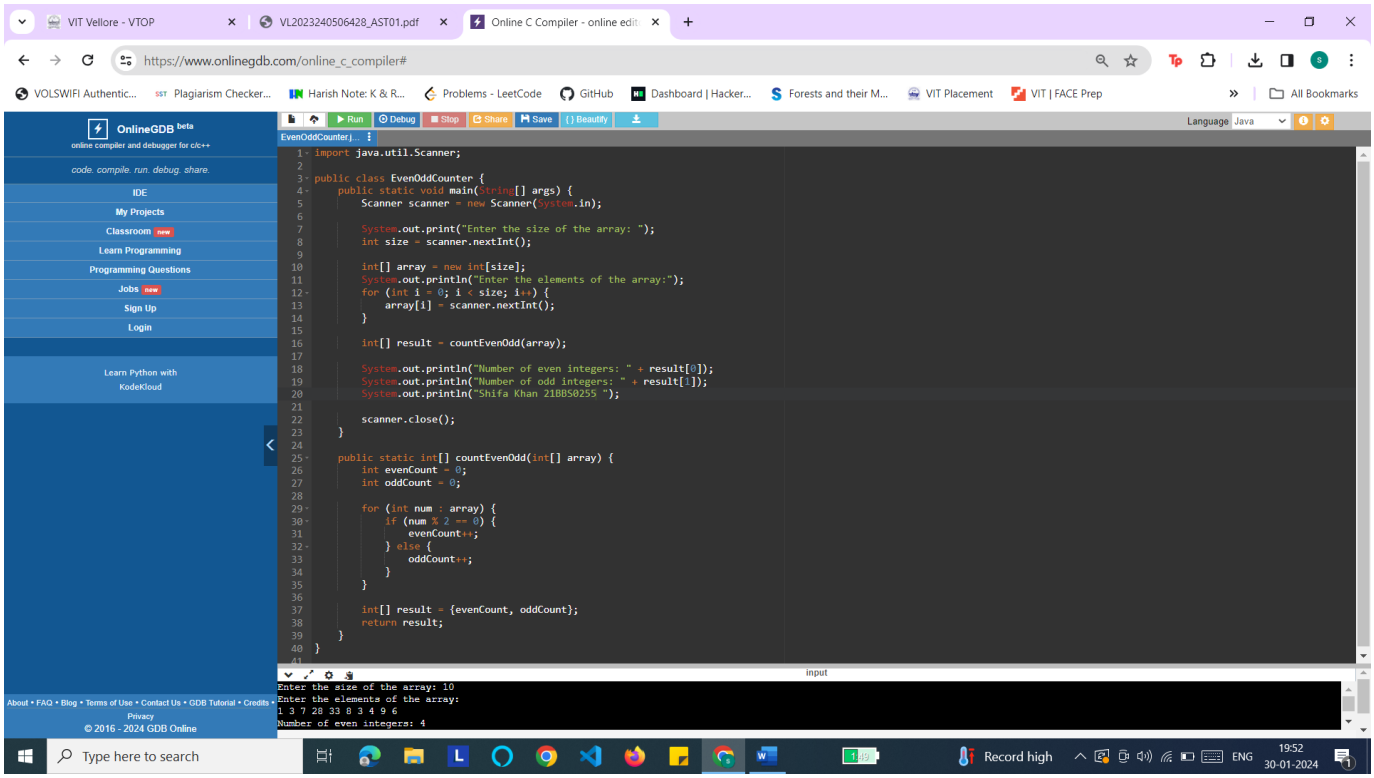
```
import java.util.Scanner;


public class EvenOddCounter {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);


      System.out.print("Enter the size of the array: ");
      int size = scanner.nextInt();


      int[] array = new int[size];
      System.out.println("Enter the elements of the array:");
      for (int i = 0; i < size; i++) {
         array[i] = scanner.nextInt();
      }


      int[] result = countEvenOdd(array);
```

```
        System.out.println("Number of even integers: " + result[0]);
        System.out.println("Number of odd integers: " + result[1]);
        System.out.println("Shifa Khan 21BBS0255 ");

        scanner.close();
    }

    public static int[] countEvenOdd(int[] array) {
        int evenCount = 0;
        int oddCount = 0;

        for (int num : array) {
            if (num % 2 == 0) {
                evenCount++;
            } else {
                oddCount++;
            }
        }

        int[] result = {evenCount, oddCount};
        return result;
    }
}
```

OUTPUT:



SCREENSHOT:



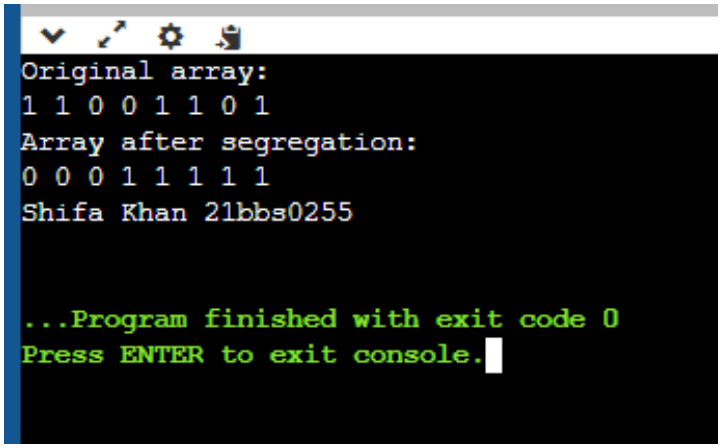
b) Write a Java program to segregate all 0s on left side and all 1s on right side of a given array of 0s and 1s.

CODE:

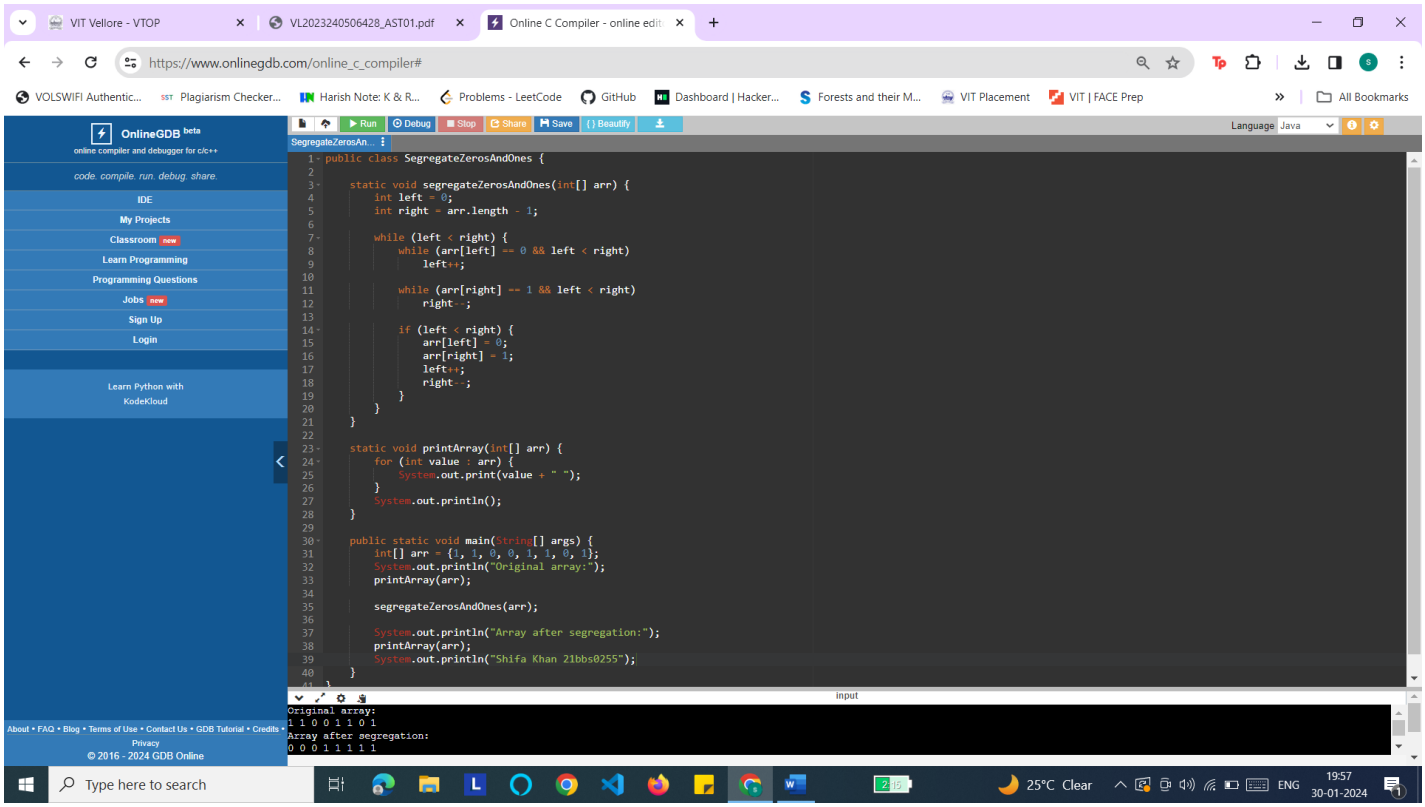
```
public class SegregateZerosAndOnes {


  static void segregateZerosAndOnes(int[] arr) {
    int left = 0;
    int right = arr.length - 1;


    while (left < right) {
      while (arr[left] == 0 && left < right)
        left++;


      while (arr[right] == 1 && left < right)
        right--;


      if (left < right) {
        arr[left] = 0;
        arr[right] = 1;
        left++;
        right--;
```

```
            }
        }
    }

    static void printArray(int[] arr) {
        for (int value : arr) {
            System.out.print(value + " ");
        }
        System.out.println();
    }

    public static void main(String[] args) {
        int[] arr = {1, 1, 0, 0, 1, 1, 0, 1};
        System.out.println("Original array:");
        printArray(arr);

        segregateZerosAndOnes(arr);

        System.out.println("Array after segregation:");
        printArray(arr);
        System.out.println("Shifa Khan 21bbs0255");
    }
}
```

OUTPUT:



SCREENSHOT: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Classroom new
Learn Programming
Programming Questions
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Sign Up
Login
Learn Python with KodeKloud
Run
Debug
Stop
Share
Save
{ } Beautify
Language Java
SegregateZerosAn...
public class SegregateZerosAndOnes {
static void segregateZerosAndOnes(int[] arr) {
int left = 0;
int right = arr.length - 1;
while (left < right) {
while (arr[left] == 0 && left < right)
left++;
while (arr[right] == 1 && left < right)
right--;
if (left < right) {
arr[left] = 0;
arr[right] = 1;
left++;
right--;
}
}
}
static void printArray(int[] arr) {
for (int value : arr) {
System.out.print(value + " ");
}
System.out.println();
}
public static void main(String[] args) {
int[] arr = {1, 1, 0, 0, 1, 1, 0, 1};
System.out.println("Original array:");
printArray(arr);
segregateZerosAndOnes(arr);
System.out.println("Array after segregation:");
printArray(arr);
System.out.println("Shifa Khan 21bbs0255");
}
}
input
Original array:
1 1 0 0 1 1 0 1
Array after segregation:
0 0 0 1 1 1 1 1
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