

Day-5

Quiz-2

1. Given an array . Create two arrays one for Odd Elements and other for Even Elements.

Input: [10,3,5,12,17,22]

Output:

[10,12,22]

[3,5,7]

CODE:

```
import java.util.ArrayList;
import java.util.Scanner;
public class SeparateOddEvenArrays {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the number of elements in the array: ");
        int n = scanner.nextInt();

        int[] inputArray = new int[n];
        System.out.println("Enter the elements of the array:");

        for (int i = 0; i < n; i++) {
            inputArray[i] = scanner.nextInt();
        }
        ArrayList<Integer> evenArray = new ArrayList<>();
        ArrayList<Integer> oddArray = new ArrayList<>();

        for (int num : inputArray) {
            if (num % 2 == 0) {
                evenArray.add(num);
            } else {
                oddArray.add(num);
            }
        }
        int[] evenElements = evenArray.stream().mapToInt(Integer::intValue).toArray();
        int[] oddElements = oddArray.stream().mapToInt(Integer::intValue).toArray();
        System.out.print("Even Elements: [");
        for (int i = 0; i < evenElements.length; i++) {
            System.out.print(evenElements[i]);
            if (i < evenElements.length - 1) {
                System.out.print(",");
            }
        }
        System.out.println("]");
        System.out.print("Odd Elements: [");
        for (int i = 0; i < oddElements.length; i++) {
            System.out.print(oddElements[i]);
            if (i < oddElements.length - 1) {
                System.out.print(",");
            }
        }
        System.out.println("]");
    }
}
```

```

        System.out.print(",");
    }
}
System.out.println("]");
scanner.close();
}
}

```

OUTPUT:

```

Enter the number of elements in the array: 6
Enter the elements of the array:10
3
5
12
17
22
Even Elements: [10,12,22]
Odd Elements: [3,5,17]

```

CODE:

```

import java.util.Scanner;
public class StringCompression {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String input = scanner.nextLine();
        String compressedString = compressString(input);
        System.out.println("Original String: " + input);
        System.out.println("Compressed String: " + compressedString);
        scanner.close();
    }
    private static String compressString(String input) {
        StringBuilder compressed = new StringBuilder();
        int count = 1;
        for (int i = 0; i < input.length(); i++) {
            if (i < input.length() - 1 && input.charAt(i) == input.charAt(i + 1)) {
                count++;
            } else {
                compressed.append(input.charAt(i));
                if (count > 1) {
                    compressed.append(count);
                }
                count = 1;
            }
        }
    }
}

```

```

        return compressed.toString();
    }
}

```

OUTPUT:

```

Enter a string: AAABBC
Original String: AAABBC
Compressed String: A3B2C

```

```

Enter a string: AAABBCCDE
Original String: AAABBCCDE
Compressed String: A3B2C3DE

```

3.

Input : zohocorporationteam

Output :

```

z o h o c o r
      p
    o
  r
a
t
i o n t e a m

```

CODE:

```

import java.util.Scanner;
public class ZigZagPattern {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String input = scanner.nextLine();
        System.out.print("Enter the number of rows: ");
        int numRows = scanner.nextInt();
        printZigZagPattern(input, numRows);
        scanner.close();
    }
    private static void printZigZagPattern(String input, int numRows) {
        if (numRows <= 0) {
            System.out.println("Number of rows should be greater than 0.");
            return;
        }
        if (numRows == 1 || numRows >= input.length()) {
            System.out.println(input);
            return;
        }

        StringBuilder[] zigzag = new StringBuilder[numRows];

```

```

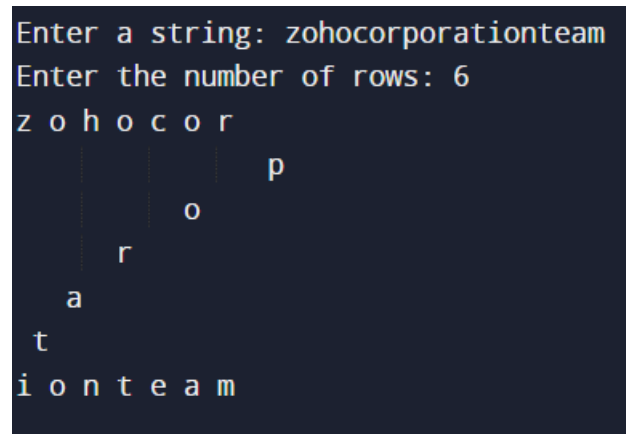
for (int i = 0; i < numRows; i++) {
    zigzag[i] = new StringBuilder();
}

int row = 0;
boolean goingDown = false;

for (char ch : input.toCharArray()) {
    zigzag[row].append(ch);
    if (row == 0 || row == numRows - 1) {
        goingDown = !goingDown;
    }
    row += goingDown ? 1 : -1;
}
for (int i = 0; i < numRows; i++) {
    for (int j = 0; j < zigzag[i].length(); j++) {
        char currentChar = zigzag[i].charAt(j);
        System.out.print((currentChar == "\u0000") ? " " : currentChar + " ");
    }
    System.out.println();
}
}
}

```

OUTPUT:



```

Enter a string: zohocorporationteam
Enter the number of rows: 6
z o h o c o r
      p
    o
  r
a
t
i o n t e a m

```