**Conditional and Control statements**

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 OddEven {

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[] inputArray = new int[size];

System.out.println("Enter the elements of the array:");

for (int i = 0; i < size; i++) {

System.out.print("Element " + (i + 1) + ": ");

inputArray[i] = scanner.nextInt();

}

scanner.close();

ArrayList<Integer> evenList = new ArrayList<>();

ArrayList<Integer> oddList = new ArrayList<>();

for (int num : inputArray) {

if (num % 2 == 0) {

evenList.add(num);

} else {

oddList.add(num);

}

}

System.out.println("Even Elements:");

System.out.println(evenList);

System.out.println("Odd Elements:");

System.out.println(oddList);

}

}

2.Compression of String

Input: AAABBC

Output: A3B2C

Input: AAABBCCCDE

Output: A3B2C3DE

**CODE:**

import java.util.HashMap;

import java.util.Map;

import java.util.Scanner;

public class Compression{

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a string: ");

String str = scanner.nextLine();

Map<Character, Integer> map = new HashMap<>();

for (int i = 0; i < str.length(); i++) {

if (map.containsKey(str.charAt(i))) {

map.put(str.charAt(i), map.get(str.charAt(i)) + 1);

} else {

map.put(str.charAt(i), 1);

}

}

map.forEach((key, value) -> System.out.print(key + "" + value));

scanner.close();

}

}

3)Input : zohocorporationteam

Output :

z o h o c o r

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i o n t e a m

**CODE:**

import java.util.Scanner;

public class zpattern {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter the input string: ");

String input = scanner.nextLine();

System.out.print("Enter the number of rows: ");

int numRows = scanner.nextInt();

if (numRows <= 0) {

System.out.println("Number of rows should be greater than 0.");

return;

}

printZigzag(input, numRows);

scanner.close();

}

private static void printZigzag(String input, int numRows) {

int n = input.length();

char[][] matrix = new char[numRows][n];

int row = 0, col = 0;

boolean down = true;

for (int i = 0; i < n; i++) {

matrix[row][col] = input.charAt(i);

if (col == numRows - 1) {

down = false;

} else if (col == 0) {

down = true;

}

if (down) {

col++;

} else {

col--;

row++;

}

}

for (int i = 0; i < numRows; i++) {

for (int j = 0; j < n; j++) {

if (matrix[i][j] != '\0') {

System.out.print(matrix[i][j] + " ");

} else {

System.out.print(" ");

}

}

System.out.println();

}

}

}