**JAVA PROGRAMMING -WEEK 2- ASSIGNMENT 5**

1.ANS

import java.util.Scanner;

public class SubsequenceSum {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

// Input the size of the array

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

int n = scanner.nextInt();

// Input the elements of the array

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

int[] arr = new int[n];

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

arr[i] = scanner.nextInt();

}

// Calculate the sum of products of consecutive pairs

long sum = calculateSubsequenceSum(arr);

// Print the result

System.out.println("Output: " + sum);

// Close the scanner

scanner.close();

}

private static long calculateSubsequenceSum(int[] arr) {

int n = arr.length;

long sum = 0;

// Iterate through all possible pairs of elements

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

for (int j = i + 1; j < n; j++) {

// Calculate the product of the current pair and add it to the sum

sum += arr[i] \* arr[j];

}

}

return sum;

}

}

2.ANS

import java.util.Scanner;

public class RotateImage {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

// Input the size of the matrix

System.out.println("Enter the size of the matrix:");

int n = scanner.nextInt();

// Input the elements of the matrix

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

int[][] matrix = new int[n][n];

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

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

matrix[i][j] = scanner.nextInt();

}

}

// Rotate the matrix in-place

rotateImage(matrix);

// Print the rotated matrix

System.out.println("Rotated Image:");

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

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

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

}

System.out.println();

}

// Close the scanner

scanner.close();

}

private static void rotateImage(int[][] matrix) {

int n = matrix.length;

// Transpose the matrix

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

for (int j = i + 1; j < n; j++) {

// Swap matrix[i][j] and matrix[j][i]

int temp = matrix[i][j];

matrix[i][j] = matrix[j][i];

matrix[j][i] = temp;

}

}

// Reverse each row

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

for (int j = 0; j < n / 2; j++) {

// Swap matrix[i][j] and matrix[i][n - j - 1]

int temp = matrix[i][j];

matrix[i][j] = matrix[i][n - j - 1];

matrix[i][n - j - 1] = temp;

}

}

}

}

3.ANS

import java.util.Scanner;

public class MinMaxSum {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

// Input the size of the array

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

int n = scanner.nextInt();

// Input the elements of the array

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

long[] arr = new long[n];

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

arr[i] = scanner.nextLong();

}

// Calculate the minimum and maximum sums

calculateMinMaxSum(arr);

// Close the scanner

scanner.close();

}

private static void calculateMinMaxSum(long[] arr) {

int n = arr.length;

// Calculate the sum of all elements

long totalSum = 0;

for (long num : arr) {

totalSum += num;

}

// Find the minimum and maximum values

long min = Long.MAX\_VALUE;

long max = Long.MIN\_VALUE;

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

long sumWithoutElement = totalSum - arr[i];

min = Math.min(min, sumWithoutElement);

max = Math.max(max, sumWithoutElement);

}

// Print the results

System.out.println(min + " " + max);

}

}