**WEEK- 2**

**1.ArrayOperations:**

package WEEK2;

public class ArrayOperations {

    public static void main(String[] args) {

        int[] arr = {10, 20, 30, 40, 50};

        int sum = 0;

        for (int num : arr) {

            sum += num;

        }

        double avg = sum / (double) arr.length;

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

        System.out.println("Average: " + avg);

    }

}

**2.Matrix Additions**

package WEEK2;

public class MatrixAddition {

    public static void main(String[] args) {

        int[][] a = {{1, 2}, {3, 4}};

        int[][] b = {{5, 6}, {7, 8}};

        int[][] sum = new int[2][2];

        for (int i = 0; i < 2; i++) {

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

                sum[i][j] = a[i][j] + b[i][j];

            }

        }

        System.out.println("Sum of matrices:");

        for (int[] row : sum) {

            for (int val : row) {

                System.out.print(val + " ");

            }

            System.out.println();

        }

    }

}

**3.Matrix Multiplication**

package WEEK2;

public class MatrixMultiplication {

    public static void main(String[] args) {

        int[][] a = {{1, 2}, {3, 4}};

        int[][] b = {{2, 0}, {1, 2}};

        int[][] result = new int[2][2];

        for (int i = 0; i < 2; i++) {

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

                result[i][j] = 0;

                for (int k = 0; k < 2; k++) {

                    result[i][j] += a[i][k] \* b[k][j];

                }

            }

        }

        System.out.println("Multiplication result:");

        for (int[] row : result) {

            for (int val : row) {

                System.out.print(val + " ");

            }

            System.out.println();

        }

    }

}

**4.Plaindrome Check**

package WEEK2;

public class PalindromeCheck {

    public static void main(String[] args) {

        String s = "madam";

        String rev = "";

        for (int i = s.length() - 1; i >= 0; i--) {

            rev += s.charAt(i);

        }

        if (s.equals(rev)) {

            System.out.println("Palindrome");

        } else {

            System.out.println("Not a Palindrome");

        }

    }

}

**5.StringBuffer Demo**

package WEEK2;

public class StringBufferDemo {

    public static void main(String[] args) {

        StringBuffer sb = new StringBuffer("Java");

        sb.append(" Programming");

        sb.insert(4, " is");

        sb.delete(4, 7);

        sb.reverse();

        System.out.println(sb);

    }

}

**6. StringMethods**

package WEEK2;

public class StringMethods {

    public static void main(String[] args) {

        String s = "Hello Java";

        System.out.println(s.length());

        System.out.println(s.toUpperCase());

        System.out.println(s.toLowerCase());

        System.out.println(s.charAt(4));

        System.out.println(s.indexOf("Java"));

    }

}

**7.String Sort**

package WEEK2;

import java.util.Arrays;

public class StringSort {

    public static void main(String[] args) {

        String[] names = {"Nasreen", "Monika", "Harika"};

        Arrays.sort(names);

        for (String name : names) {

            System.out.println(name);

        }

    }

}

**8.String Tokenizer Demo**

package WEEK2;

import java.util.StringTokenizer;

public class StringTokenizerDemo {

    public static void main(String[] args) {

        String str = "Java,Python,C++,C";

        StringTokenizer st = new StringTokenizer(str, ",");

        while (st.hasMoreTokens()) {

            System.out.println(st.nextToken());

        }

    }

}