PROJECTS

Problem 1Tr...Matrix.java

Problem 1Transpose of a Matrix.java

```java
package transposematrix;
import java.util.Scanner;

public class Main{

    public static int[][] inputMatrix(int nRows, int nCols) {
        Scanner in = new Scanner(System.in);
        int[][] matrix = new int[nRows][nCols];
        System.out.println("Enter the matrix elements:");
        for (int i = 0; i < nRows; i++) {
            for (int j = 0; j < nCols; j++) {
                matrix[i][j] = in.nextInt();
            }
        }
        return matrix;
    }

    public static int[][] transposeMatrix(int[][] matrix, int rows, int cols) {
        int[][] transposedMatrix = new int[cols][rows];
        for (int i = 0; i < rows; i++) {
            for (int j = 0; j < cols; j++) {
                transposedMatrix[j][i] = matrix[i][j];
            }
        }
        return transposedMatrix;
    }

    public static void printMatrix(int[][] matrix, int rows, int cols) {
        for (int i = 0; i < rows; i++) {
            for (int j = 0; j < cols; j++) {
                System.out.print(matrix[i][j] + " ");
            }

        }
    }

    public static boolean isSymmetric(int[][] matrix, int rows, int cols) {
        if (rows != cols) {
```

Problem 1 C...ements.java

Problem 1 Count Frequency of Array Elements.java

```java
package functionproject;
import java.util.Scanner;
public class main {

        public static void main(String[] args) {
            // TODO Auto-generated method stub


        Scanner scanner = new Scanner(System.in);

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

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

           //  calculate and print frequencies
           for (int i = 0; i < n; i++) {
               // Count the frequency of the element array[i]
               if (array[i] >= 0) {
                   int count = 0;
                   for (int j = 0; j < n; j++) {
                       if (array[j] == array[i]) {
                           count++;

                       }
                   }

                   // Print the frequency
                   System.out.println(array[i] + " -> " + count);
               }
           }
           }
```

Problem 2Fi... Array.java

Problem 2Find the Second Largest Element in an Array.java

```java
package largestelement;
import java.util.Scanner;
public class main {

        public static void main(String[] args) {
            Scanner scanner = new Scanner(System.in);
         // Taking the size as input
            System.out.println(" Enter the size");

            int size = scanner.nextInt();

            // Taking the elements as input
            int[] arr = new int[size];
            System.out.println("Enter the number");
            //  find the largest and second largest
            int largest = Integer.MIN_VALUE;
            int secondLargest = Integer.MIN_VALUE;
            for (int i = 0; i < num; i++) {
                arr[i] = scanner.nextInt();
            }
            for (int i = 0; i < num; i++) {
                if (arr[i] > largest) {
                    secondLargest = largest; // Update second largest
                    largest = arr[i];// Update largest
                } else if (arr[i] > secondLargest && arr[i] != largest) {
                    secondLargest = arr[i];
                }
                if (secondLargest == Integer.MIN_VALUE) {
                    System.out.println("No second largest element");
                } else {
                    System.out.println(secondLargest);
            }

            }
        }
}
```