OBJECT ORIENTED PROGRAMMING LAB

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Aim

Read 2 matrices from the console and perform matrix addition.

Procedure

Source Code

```
import java.util.Scanner;

public class Matrixaddition {
   public void Display(int [][] arr,int row,int col){
      for(int i=0;i<row;i++){
         for(int j=0;j<col;j++){
            System.out.print(arr[i][j]+"\t");
         }
         System.out.println();
      }
  }
   public static void main(String[] args) {
      int[][] mat1=new int[5][5];
      int[][] mat2=new int[5][5];
      int[][] mat3=new int[5][5];
      int rows1, cols1, rows2, cols2;

      Matrixaddition obj=new Matrixaddition();
      Scanner s=new Scanner(System.in);
      System.out.println("Enter the number of rows and columns of matrix1:");
      rows1=s.nextInt();
      cols1=s.nextInt();
      System.out.println("Enter the elements of matrix 1:");
      for(int i=0;i<rows1;i++)
      {
         for(int j=0;j<cols1;j++)
         {
            mat1[i][j]=s.nextInt();
         }
      }
      System.out.println("Enter the number of rows and columns of matrix2:");
      rows2=s.nextInt();
      cols2=s.nextInt();
      System.out.println("Enter the elements of matrix 2:");
      for(int i=0;i<rows2;i++)
      {
```

```
            for(int j=0;j<cols2;j++)
            {
               mat2[i][j]=s.nextInt();
            }
         }
        if(rows1==rows2 && cols1==cols2)
         {
            for(int i=0;i<rows1;i++)
            {
               for(int j=0;j<cols1;j++)
               {
                  mat3[i][j]=mat1[i][j]+mat2[i][j];
               }
            }

            System.out.println("First matrix:");
            obj.Display(mat1,rows1,cols1);
            System.out.println("Second matrix:");
            obj.Display(mat2,rows2,cols2);
            System.out.println("Addition of two matrix:");
            obj.Display(mat3,rows1,cols1);
         }
         else
         {
            System.out.println("The matrices cannot be added.");
         }

      }
}
```

Output Screenshot

```
C:\Users\Student\Desktop\Just-in Regular>javac Matrixaddition.java

C:\Users\Student\Desktop\Just-in Regular>java Matrixaddition
Enter the number of rows and columns of matrix 1:
2
2
Enter the elements of matrix 1:
1
2
3
4
Enter the number of rows and columns of matrix 2:
2
2
Enter the elements of matrix 2:
5
6
7
8
First matrix:
1       2
3       4
Second matrix:
5       6
7       8
Addition of matrix:
6       8
10      12
```