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20BCE1182

1) Create a class MATRIX in a package called <>. Include a read and print methods to input and output a matrix elements. This class should also include methods to add and subtract two matrices. Create a TestMatrix class in a default package and let this class to access all the methods of the class MATRIX.

Matrix.java

Code

```
package sheral;


public class Matrix


{
Scanner sc = new Scanner(System.in);
int n = sc.nextInt();
int[][] mat1 = new int[n][n];
int[][] mat2 = new int[n][n];
int[][] add = new int[n][n];
int[][] diff = new int[n][n];


public Matrix()
```

```
{
this.mat1 = new int[n][n];
this.mat2 = new int[n][n];
this.add = new int[n][n];
this.sub = new int[n][n];
}
void read()
{

Scanner sc = new Scanner(System.in);
System.out.println("Enter elements of 1st matrix ");



for (int i=0;i<n;i++)
{
for (int j=0;j<n;j++)
{
mat1[i][j] = sc.nextInt();
}
}

System.out.println("Enter elements of 2nd matrix ");
for (int i=0;i<n ;i++)
{
```

```
for (int j=0;j<n;j++)
{
mat2[i][j] = sc.nextInt();
}
}

}

void sub(int mat1[][] , int mat2[][])
{
for (int i=0;i<n;i++)
{
for (int i=j;i<n;i++)
{
 diff[i][j] = mat1[i][j] - mat2[i][j];
}
}
}

void add(int mat1[][] , int mat2[][])
{
for (int i=0;i<n;i++)
{
```

```
for (int j=0;j<n;j++)
{
diff[i][j] = mat1[i][j] + mat2[i][j];

}
}
}

void print()
{

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

for (int j=0;j<n;j++)
{
System.out.print( diff[i][j] + "  ") ;

}
System.out.println();
}
}

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

```
{

for (int j=0;j<n;j++)
{
System.out.print( diff[i][j] + "  ") ;

}
System.out.println(sum[i][j] + "  ");
}
}

}
```

File name

TestMatrix.java

```
import sheral.Matrix;

class TestMatrix
{

public static void main(String[] args)
{

Matrix m1 = new Matrix();

m1.read();
m1.sub();
m1.add();
m1.print();

}
}
```