

<https://course.acciojob.com/idle?question=2bb537cd-fc5c-4ff7-99c6-b9332beab48e>

● EASY

● Max Score: 30 Points

# TransposeMatrix

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Write a program to find the transpose of a square matrix of size  $N \times N$ . Transpose of a matrix is obtained by changing rows to columns and columns to rows.

Expected Time Complexity:  $O(N * N)$

Expected Auxiliary Space:  $O(1)$

## Input Format

The first line contains an integer  $N$ .

The next  $N$  lines contains  $N$  spaced integers each, elements of matrix.

## Output Format

Print the transposed matrix.

## Example 1

Input

```
4
1 1 1 1
2 2 2 2
3 3 3 3
4 4 4 4
```

Output

```
1 2 3 4
1 2 3 4
```

```
1 2 3 4
1 2 3 4
```

Explanation

The rows and columns are switched.

## Example 2

Input

```
5
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
21 22 23 24 25
```

Output

```
1 6 11 16 21
2 7 12 17 22
3 8 13 18 23
4 9 14 19 24
5 10 15 20 25
```

Explanation

The rows and columns are switched. For example: 6 was at position 0, 1 in original matrix. In the transposed matrix, it is at position 1, 0.

## Constraints

$1 \leq N \leq 100$

$-10^3 \leq \text{mat}[i][j] \leq 10^3$

### Topic Tags

- 2D-Arrays

# My code

// in java

```
import java.util.*;  
import java.lang.*;  
import java.io.*;
```

```
public class Main
```

```
{
```

```
    public static void main (String[] args) throws java.lang.Exception  
    {
```

```
        //your code here
```

```
        Scanner s=new Scanner(System.in);
```

```
        int n=s.nextInt();
```

```
        int arr[][]=new int[n][n];
```

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

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

```
            arr[i][j]=s.nextInt();
```

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

```
            {
```

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

```
                {
```

```
                    if(i<j) continue;
```

```
                    else {
```

```
                        int t=arr[i][j];
```

```
                        arr[i][j]=arr[j][i];
```

```
                        arr[j][i]=t;
```

```
                    }
```

```
                }
```

```
            }
```

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