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Input

```
3 3
1 9 8
11 20 63
54 22 18
```

Output

```
Enter the number of rows and columns of matrix
3   3
Enter the elements of matrix
1   9   8
11  20  63
54  22  18
The transpose of matrix is
```

Input

```
3 3
1 9 8
11 20 63
54 22 18
```

Output

```
11   20   63
54   22   18
The transpose of matrix is
1    11   54
9    20   22
8    63   18
```

Transpose Of Matrix

Program -

```
# include <stdio.h>
int main()
{
    int a[20][20], i, j, m, n, transpose[20][20];
    printf("Enter the numbers of rows and columns
            of matrix \n");
    scanf("%d %d", &m, &n);
    printf("Enter the elements of matrix \n");
    for(i=0; i<m; i++)
    {
        for(j=0; j<n; j++)
        {
            scanf("%d", &a[i][j]);
        }
        printf("\n");
    }
    printf("The transpose of matrix is \n");
        for(i=0; i<n; i++)
        {
            for(j=0; j<m; j++)
            {
                transpose[i][j] = a[j][i]
                printf("%d \t", transpose[i][j]);
            }
            printf("\n");
        }
    return(0);
}
```

Algorithm

step1 - start

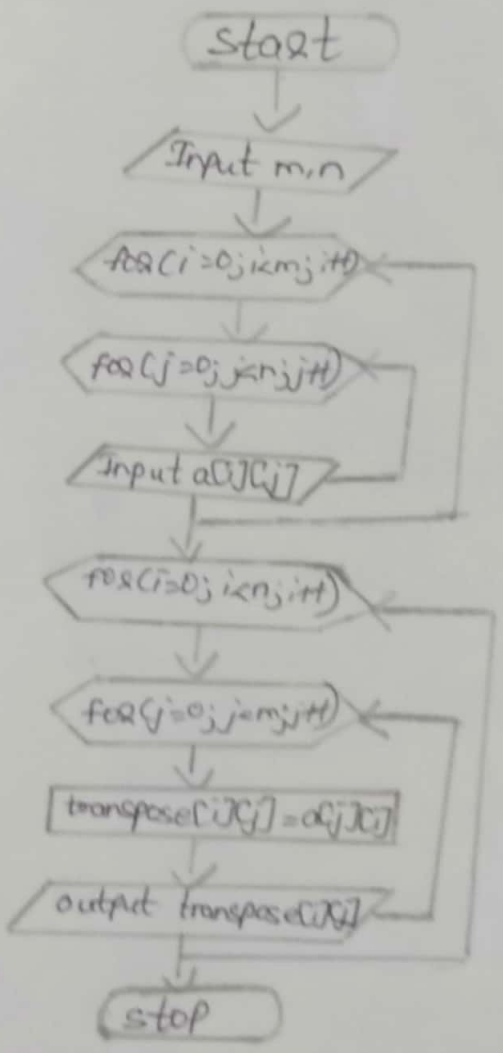
step2 - Input m,n

step3 - Repeat for (i=0; i<m; i++)
Repeat for (j=0; j<n; j++)
Input a[i][j]
[End for]
[End for]

step4 - Repeat for (i=0; i<n; i++)
Repeat for (j=0; j<m; j++)
transpose[i][j] = a[j][i]
output transpose[i][j]

step5 - Stop

Flowchart



Output

```
Enter the number of rows and columns of
matrix
3 3
Enter the elements of matrix
1 9 8
11 20 63
54 22 18
The transpose of matrix is
1 11 54
9 20 22
8 63 18
```