# EXPERIMENT - 10

# Aim: To display lower triangular matrix

## Pseudo code

Input matrix dimensions (m, n).

Create a 2D array (arr) of size m x n.

Loop through rows (i) from 0 to m:

Loop through columns (j) from 0 to n:

- Read input elements into arr[i][j].

Display "Lower triangular matrix:".

Loop through rows (i) from 0 to m:

Loop through columns (j) from 0 to n:

- If i is greater than or equal to j, print arr[i][j].

Print a newline after each row.

## Source code:

#include<iostream>

using namespace std;

int main(){

   int m,n;

   cout<<"Enter the elements for row: ";

    cin>>m;

   cout<<"Enter the elements for column: ";

    cin>>n;

   int arr[m][n];

   for (int i=0;i<m;i++){

    for (int j=0;j<n;j++){

        cin>>arr[i][j];

    }

   }

    cout<<"Lower triangular matrix:"<<endl;

    for(int i=0;i<m;i++){

        for (int j=0;j<n;j++){

          if(i>=j){

        cout<<arr[i][j]<<" ";

    }

else {

cout<<”0”;

}

cout<<endl;

}

}

## Output:

**Enter the elements for row: 3**

**Enter the elements for column: 3**

**1**

**1**

**1**

**1**

**1**

**1**

**1**

**1**

**1**

**Lower triangular matrix:**

**1 0 0**

**1 1 0**

**1 1 1**

## Learning from experiment

* **Matrix Input:** Reads a matrix based on user-defined row and column sizes.
* **Lower Triangular Display:** Prints the lower triangular part of the matrix.