# EXPERIMENT - 9

# Aim: To display upper triangular matrix

## Pseudo code

Read m, n

Create a 2D array arr with dimensions m x n

For i from 0 to m

For j from 0 to n

Read arr[i][j]

Print "Upper triangular matrix:"

For i from 0 to m

For j from 0 to n

If i <= j

Print arr[i][j]

Else

Print 0

Print a newline

## 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<<"Upper 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**

**Upper triangular matrix:**

**1 1 1**

**0 1 1**

**0 0 1**

## Learning from experiment

* Correctly identifies upper triangular matrix.
* Displays zeros below the diagonal.