ROW MAJOR:

```
#include <iostream>
using namespace std;

int main()
{       int r,c,i,j,count,arr[50][50];
        count=0;
        int oned[50];
        int k=0;

        cout<<"Enter r: "<<endl;
        cin>>r;
        cout<<"Enter c: "<<endl;
        cin>>c;

        //input the matrix
        for(i=0;i<r;i++)
        {       for(j=0;j<c;j++)
                {       cout<<"Enter element arr["<<i<<"]["<<j<<"] of matrix: "<<endl;
                        cin>>arr[i][j];

                }

        }
        cout<<"The Matrix is:\n\n";
        //print the 2d matrix
        for(i=0;i<r;i++)
        {       for(j=0;j<c;j++)
                {
                        cout<<arr[i][j]<<"\t";

                }
                cout<<"\n";
        }
        cout<<"The following Matrix can be mapped to a 1D array as follows: \n\n";
        //Map 2d array to 1d array
        for(i=0;i<r;i++)
        {       for(j=0;j<c;j++)
                {       if(arr[i][j]!=0){

                                oned[k]=arr[i][j];
                                k++;

                        }
                }

        }
        //Display 2d array
        for(i=0;i<k;i++)
                cout<<oned[i]<<"\t";
        int m,n,location;
        cout<<"\nEnter the rowno and colno of the element you want to retrive: " ;
        cin>>m>>n;
        location=(m*c)+n;
        cout<<"\nThe element "<<arr[m][n]<<" is present in location "<<location<<endl;

}
```

```
Enter r:
3
Enter c:
3
Enter element arr[0][0] of matrix:
1
Enter element arr[0][1] of matrix:
2
Enter element arr[0][2] of matrix:
3
Enter element arr[1][0] of matrix:
4
Enter element arr[1][1] of matrix:
0
Enter element arr[1][2] of matrix:
0
Enter element arr[2][0] of matrix:
0
Enter element arr[2][1] of matrix:
5
Enter element arr[2][2] of matrix:
6
The Matrix is:

1       2       3
4       0       0
0       5       6
The following Matrix can be mapped to a 1D array as follows:

1       2       3       4       5       6
Enter the rowno and colno of the element you want to retrive: 1 0

The element 4 is present in location 3
```