

# ADS assignment

## Mapping Function

MCA –II Sem

Sandeep Bhatt , MCA051

**Question : Suppose that there is a 2D array  $a[m][n]$ . We want of store elements of this 2D array to 1D array from last row to first row and within a row from right to left. Derive mapping function to map the index of element  $a_{ij}$  in 1D.**

**Solution:**

$\text{Map}(i,j) = (\text{No. of elements from row } m-1 \text{ to row } i) + (\text{no. of elements from column } n-1 \text{ to column } j)$

$$= n*(m-1-i)+(n-1-j)$$

$$= (n*m)-(n)-(n*i)+ n-1-j$$

$$= n(m-i)-j-1$$

**So the mapping function is :  $n(m-i)-j-1$**