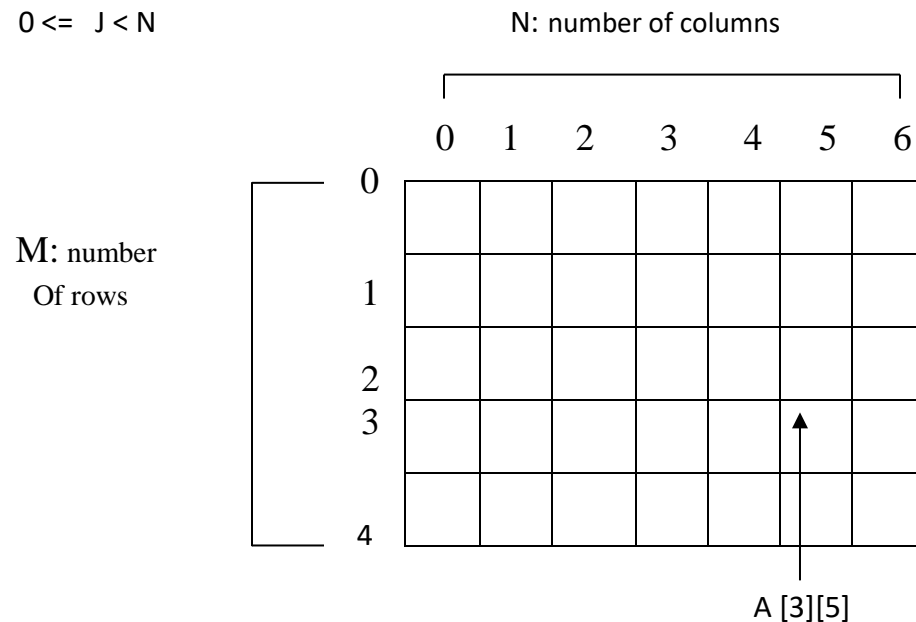


Row-wise Method:

Let int **A** [M][N] we need two index I and J to arrive elements in the array

Where M= number of rows and N= number of columns

$$0 \leq I < M, \quad 0 \leq J < N$$



For **A** [3][5] sense I=3, J=5 let base address=700

Physical address = base address + [(N*I+J)*size]

$$= 700 + [(7*3+5)*2]$$

$$= 700 + [21 + 5]*2]$$

$$= 752$$

COLUMN – WISE METHOD:

Location (A [I][J]) =Base Address + [(M *J +I)*size]

Let char s [6][8] what is the address of the element s[4][6] when the base address=300

$$\text{Location} = 300 + [6*6+4) * 1]$$

= 300 + [40]

= 340

Questions

- 1-What do we mean by data structures? Explain that in detail?
- 2-What are the classifications of data structures?
- 3-What the main factors for selection the required data structure?
- 4-What are the characteristics of the array?
- 5-Let int x [50], what is the address of the element x [33] if the base address (BA=970)
- 6-Let int a [M][N]; How you can compute the address of the general element a[i][j] using Row-wise method?
- 7-Write program to read matrix of one dimension and then print it with reverse order.
- 8- Write program with three functions, the first to insert element, second to delete element, third to search about element in the matrix with one dimension.
- 9- You have two dimension array A [n, m] divide it to four sub two dimension.
- 10- Print two dimension array with zigzag manner.