

### Arrays

1. An array A[10][20] is stored in memory with each element requiring 2 bytes of storage. If the base address of array in the memory is 400 , determine the location of A[5][10] when array is stored in
  - (a) Row Major order
  - (b) Column Major order
2. Write a user defined function named New() which takes a two dimensional array as an argument and the output shows all zeroes in the upper half.

For eg if the array entered is

|    |   |   |   |   |   |
|----|---|---|---|---|---|
| A= | 6 | 3 | 2 | 1 | 8 |
|    | 9 | 4 | 7 | 9 | 3 |
|    | 5 | 7 | 0 | 5 | 3 |
|    | 6 | 9 | 3 | 2 | 1 |
|    | 7 | 5 | 4 | 3 | 9 |

The output will be ----

|   |   |   |   |   |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 |
| 9 | 0 | 0 | 0 | 0 |
| 5 | 7 | 0 | 0 | 0 |
| 6 | 9 | 3 | 0 | 0 |
| 7 | 5 | 4 | 3 | 0 |

### PROGRAMS

3. Do all sorting and merging techniques as given in the book
4. WAP to :
  - (i) add two matrices
  - (ii) subtract two matrices
  - (iii) Display the row sum and column sum of the matrices
  - (iv) Display the transpose of a matrix
  - (v) Display the diagonal elements of a matrix