Tutorial-2

Instruction:

- Submit scanned copy of handwritten assignment
- Write Student En.No on top right of each page

Based on: Memory Address Calculation in an array

1. Given the base address of an array A[1200…..1700] as 1020 and size of each element is 2 bytes in the memory. Find the address of A[1500]**.**
2. A matrix ARR[-4…6, 3…8] is stored in the memory with each element requiring 4 bytes of storage. If the base address is 1430, find the address of ARR[3][6] when the matrix is stored in Row Major Wise.
3. An array X [4…….7, -1……3] requires 2 bytes of storage. If beginning location is 100, determine the location of X [6, 2]. Array is stored in Row-major form.
4. An array X [-20…….20, 10……35] requires 1 byte of storage. If beginning location is 500, determine the location of X [0, 30]. Array is stored in Column-major form
5. Consider a 2D array X whose index set of first and second dimensions ranges from -3 to 3 and 2 to 5 respectively (i.e X[-3..3 , 2..5])
   a) Find the length of each dimension and size of this 2D array
   b) If this array is stored in row major order then find the address of X[1,3]. Given Base(X)=5000
6. Each element of an array arr[15][20] requires ‘W’ bytes of storage. If the address of arr[6][8] is 4440 and the base address at arr[1][1] is 4000, find the width ‘W’ of each cell in the array arr[][] when the array is stored as Column Major Wise.
7. Given an array [1..8, 1..5, 1..7] of integers. Calculate address of element A[5,3,6], by using rows and columns methods, if BA=900?