Tutorial 3

1. A matrix A[m][m] is stored in the memory with each element requiring 4 bytes of storage. If the base address at A[1][1] is 1500 and the address of A[4][5] is 1608, determine the order of the matrix when it is stored in Column Major Wise.
2. A matrix P[15][10] is stored with each element requiring 8 bytes of storage. If the base address at P[0][0] is 1400, determine the address at P[10][7] when the matrix is stored in Row Major Wise.
3. A matrix A[m][n] is stored with each element requiring 4 bytes of storage. If the base address at A[1][1] is 1500 and the address at A[4][5] is 1608, determine the number of rows of the matrix when the matrix is stored in Column Major Wise.
4. The array D[-2…10][3…8] contains double type elements. If the base address is 4110, find the address of D[4][5], when the array is stored in Column Major Wise.
5. An array AR[-4 … 6, -2 … 12], stores elements in Row Major Wise, with the address AR[2][3] as 4142. If each element requires 2 bytes of storage, find the Base address.
6. A square matrix M[][] of size 10 is stored in the memory with each element requiring 4 bytes of storage. If the base address at M[0][0] is 1840, determine the address at M[4][8] when the matrix is stored in Row Major Wise.
7. A matrix B[10][7] is stored in the memory with each element requiring 2 bytes of storage. If the base address at B[x][1] is 1012 and the address at B[7][3] is 1060, determine the value ‘x’ where the matrix is stored in Column Major Wise.
8. A square matrix A [m × m] is stored in the memory with each element requiring 2 bytes of storage. If the base address at A[1][1] is 1098 and the address at A[4][5] is 1144, determine the order of the matrix A[m × m] when the matrix is stored in Column Major Wise.
9. 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?
10. Consider 3 dimensional Array A[90] [30] [40] stored in linear array in column major order. If the base address starts at 10. The location of A[20] [20] [30] is _____ . [Assume the first element is stored at A[1][1][1] and each element take 1 B].