Data structure

Tutorial-1

1. What is array? Discuss the operations that are normally performed on any linear array.
2. For row major order find out the address of the element score[10,2] from a 25X4 matrix array score with base value 200 and w=4
3. Simulate the binary search algorithm on the following data: 12 34 56 78 89 90 100 103(suppose we search for item 34). 7
4. Explain linear array representation in memory. 6

Tutorial-2

1.Difference between stack and queue.
2.Convert A+(B*C-(D/E↑F)*G)* H to the corresponding prefix and postfix expression
3.Simulate the postfix expression evaluation algorithm using 10,5,/6,2,+ ,*,12, 3,/,- by showing the stack content as each symbol is scanned
4.What is recursion? Explain the use of Recursion?

Tutorial-3

1.Define weighted graph and directed graph ,Adjacent nodes, Cycle, Connected graph with example
2. Consider the following adjacency matrix below:
(■(■(1&1@0&1)&■(0&1@0&1)@■(0&1@1&1)&■(1&1@0&1)))
Now find out A2,A3,A4,B4 and from that make the path matrix and tell whether this is strongly connected or not.
3. How many ways a graph can be traversed? What is the significance of the STATUS field?
4. Consider the adjacency list of the graph G in the following table. Draw the graph and find out the path from A to H with minimum number First Search.
Node Adjacency Node Adjacency
A G,E E C
B C F A,B

C F G B,C,E
D C H D