Graph: AlgoLab 9

1. Write a program to input a graph G = (V, E) as an **adjacency matrix**. In following you assume adjacency matrix representation of graph. Write a program to implement following.

   - Test if G is complete.
   - Obtain the degree of a node u, if G is undirected, and indegree and outdegree of node u if G is directed.
   - To check that there exist a path between two vertices.
   - Write a program to implement BFT algorithm. The program should output order of vertices traversed in Breadth First Search and shortest distance of the vertices of given graph from the source.
   - Write a program to implement DFT algorithm. The program should output the following.
     (i). Order of vertices traversed in Depth First Search.
     (ii). To check whether graph has a cycle.
     (iii). Finishing time of the vertices of the graph.

2. Write a program to input a graph G = (V, E) as an **adjacency list** representation of graph. Write a program to implement question 1 assuming adjacency list representation of graph.