DATA STRUCTURES AND ALGORITHMS– II (SEM – IV)
DEPARTMENT OF COMPUTER ENGINEERING AND IT
COLLEGE OF ENGINEERING PUNE

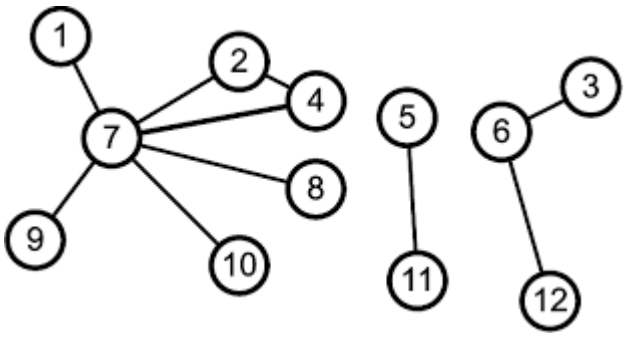
LAB ASSIGNMENT 6

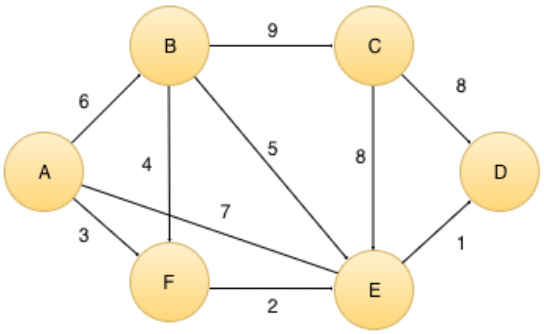
Date of Submission: 5th June 2022

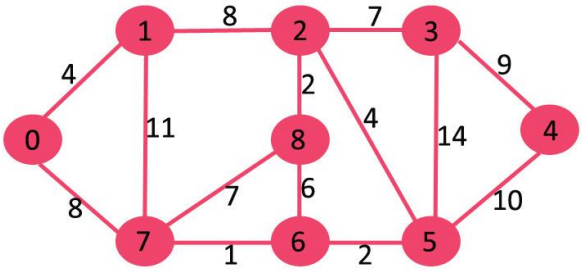
Implement Graph using Adjacency List representation. Perform following operations:

1. Initialize the graphs from a file name passed as command line argument.
2. Display graph in matrix form.
3. Perform BSF and DFS starting from a randomly selected vertex.
4. Display degree of each vertex. For a directed Graph Display in-degree and out-degree of each node.
5. Find the minimum spanning tree of an undirected weighted graph using any of the 2 algorithms.
6. Find shortest path between any two vertices using Dijkstra's algorithm

Test you code for following graphs:







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LAB ASSIGNMENT 7

Date of Submission: 12th June 2022

Implement following operations on a Binary File having student records (MIS, Name, Stream, CGPA etc):

Insert Record
Search Record by any field
Delete Record
Display all records
Display Count of students from each stream