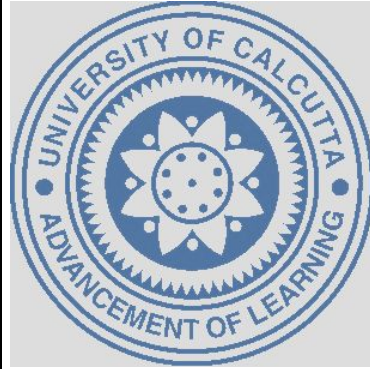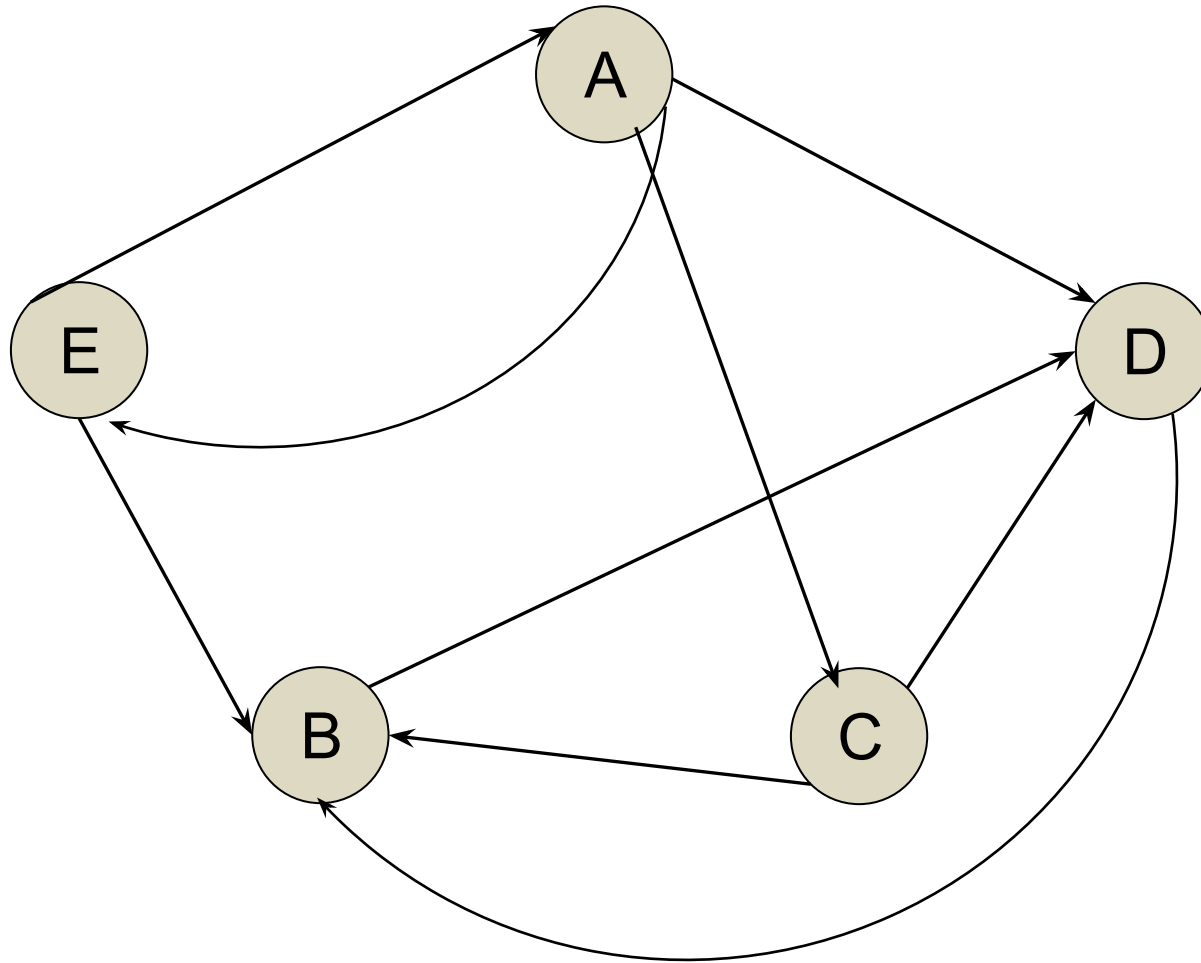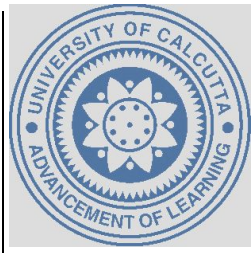# Reaching all nodes of connected Graph
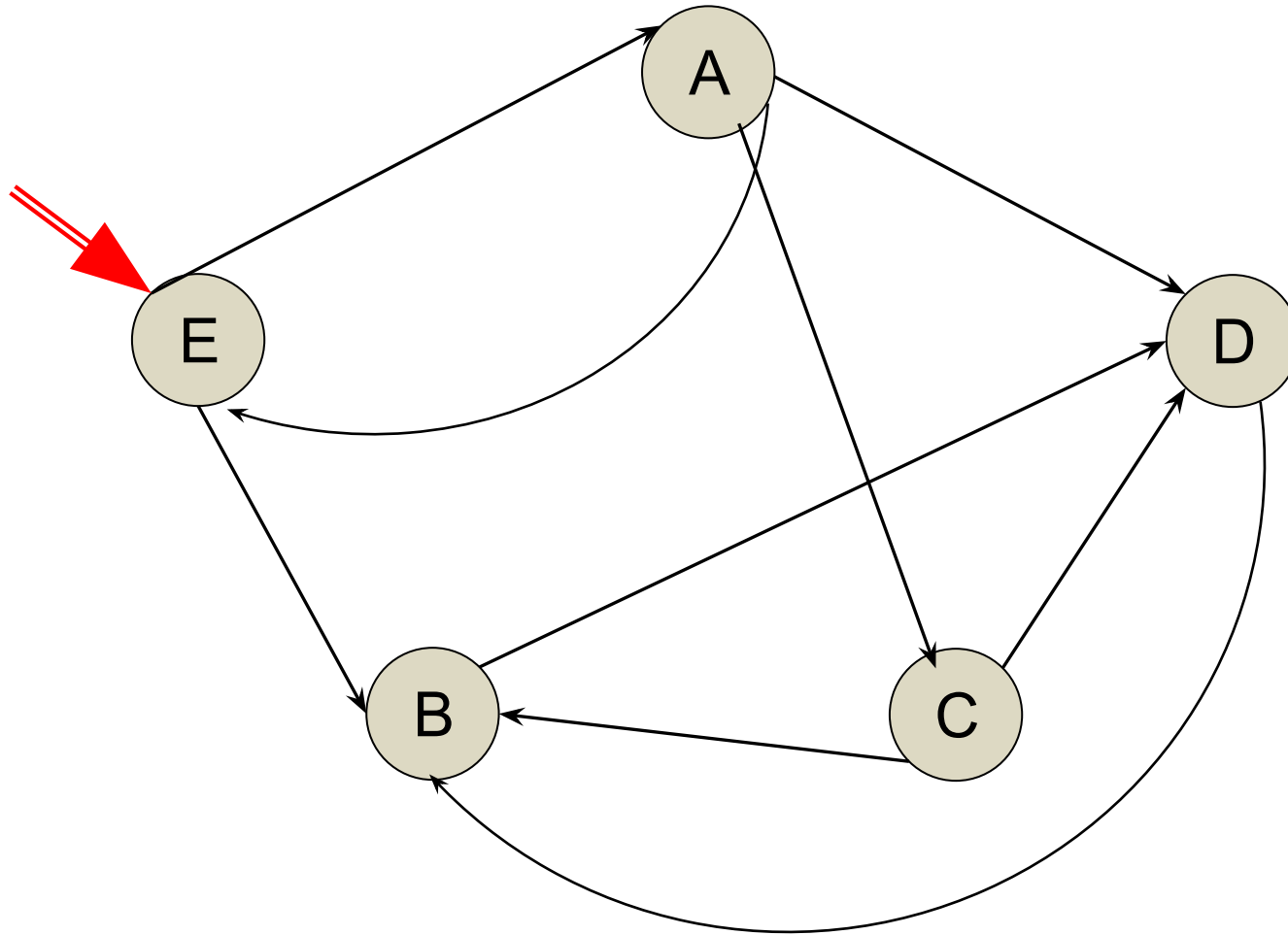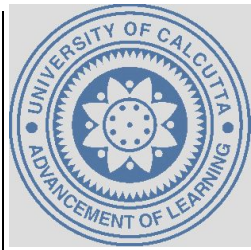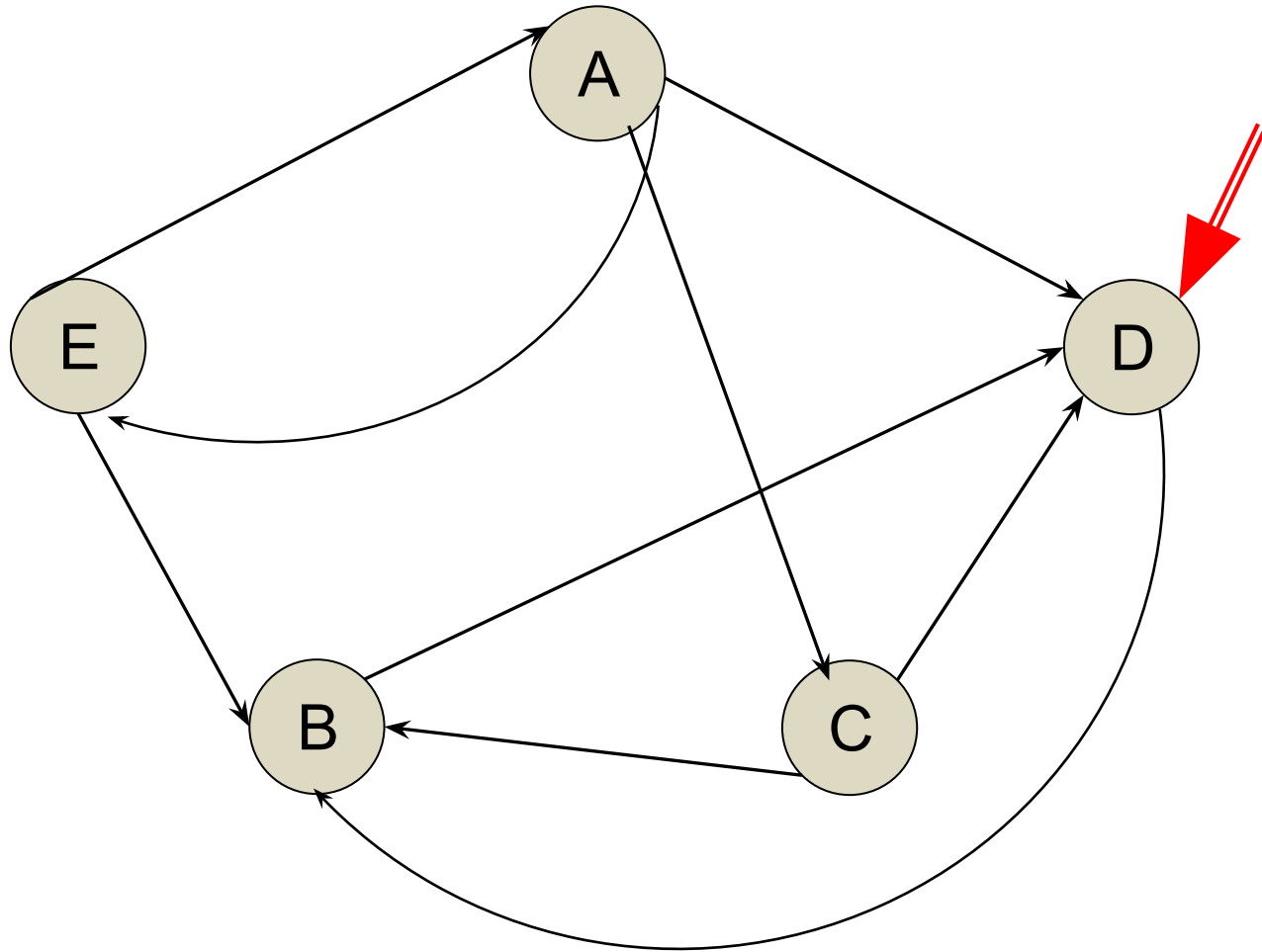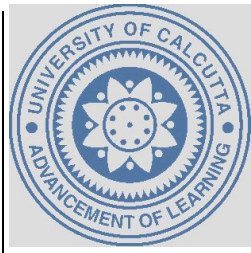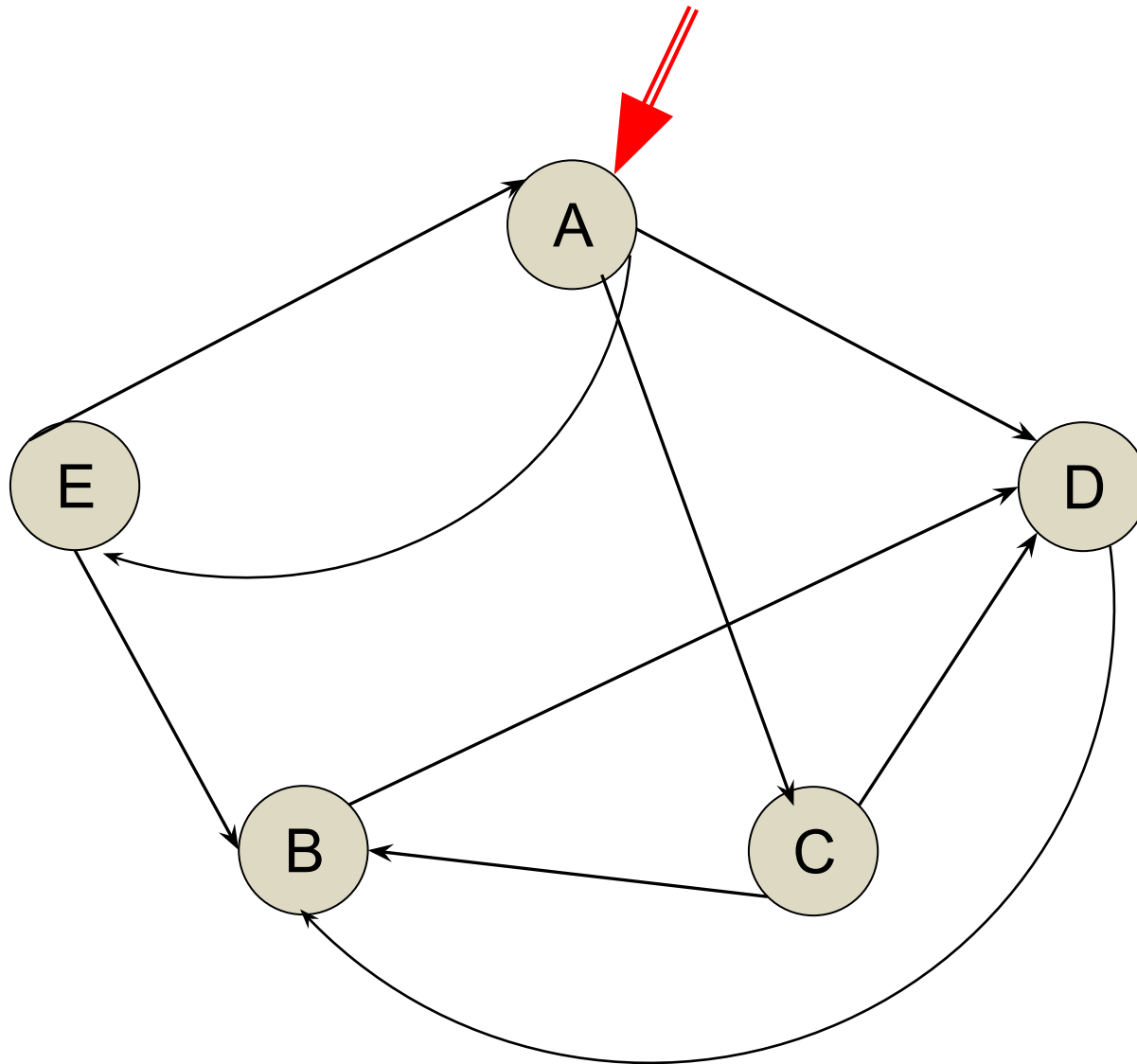
Assignment 1

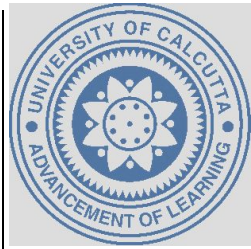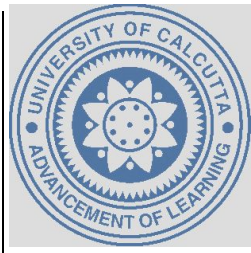# A Directed Graph Topology

A Directed Graph Topology

A Directed Graph Topology

A Directed Graph Topology

Task 1.1

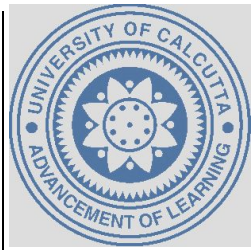- Write an algorithm to check if a node, say A, is good to be the first node to traverse to all the nodes in the network
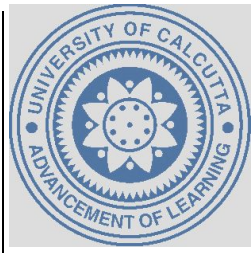
Hints

- To start with, store the given directed graph using Adjacency Matrix

- Initiate the NodeCovered list with {A}

- Add all nodes reachable in 1-hop from A to NodesCovered list – count the number

- Add all nodes reachable from NodeCovered list in 1 hop – count the number

Hints

- Continue the process till one of the following conditions is true
  - No new node can be explored from current NodesCovered list
    - Number of covered nodes is less than N
    - A fails as Initiator
  - NodesCovered list has all N nodes in it
    - A qualifies as possible Initiator

Task 1.2

- Improve your solution to list all the nodes for the given use case, that are good to be initiator node for CL algorithm