

### CO-3 ALM

Q.1) what is Ford-Fulkerson Algorithm, and how does it work?

A. The Ford-Fulkerson algorithm used to solve maximum flow problem in a flow network. In this problem, the objective is to determine maximum possible flow from designated source to sink node in a network.

→ How it works:

① Initialization: - Start with flow of 0 for all edges in network.

② Finding Augmenting Paths: - while there exists path from source to sink where current flow is less than capacity.

③ Augment flow: - For the found path, determine the maximum flow that can be added without exceeding capacity constraints.

④ Update Residual Network:- Adjust residual capacities of edges & add reverse edges as necessary to allow for responsibility of reducing flow in future iterations.

⑤ Repeat:- Continue finding augmenting flows & updating flows until no more augmenting paths are available.

→ Case Study:-

### MAX FLOW in transportation networks

In this the algorithm can be applied to determine the maximum number of goods that can be transported from supply node to demand node.