# GRAPHS

Undirected ✓

cyclic graph
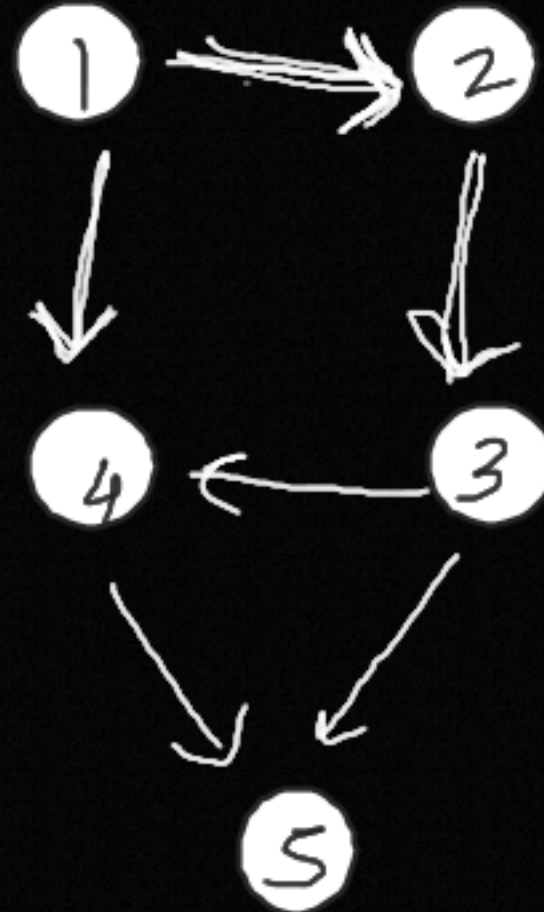
① ─── ②

⑤ ── ③ ←

④
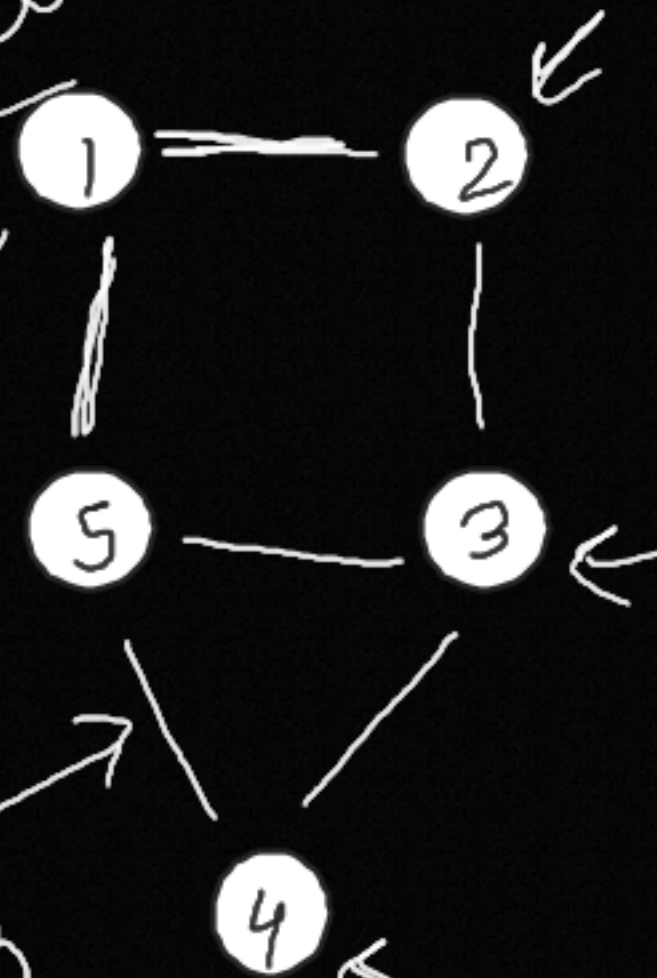
degree(1) = 2

degree(5) = 3

edges

Nodes

Directed acyclic graph ✓

① ⟹ ②

④ ← ③

⑤

DAG

Node(1)

indegree(1) = 0

outdegree(1) = 2
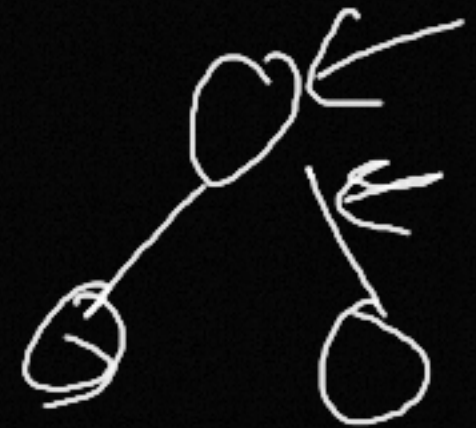
Cycle
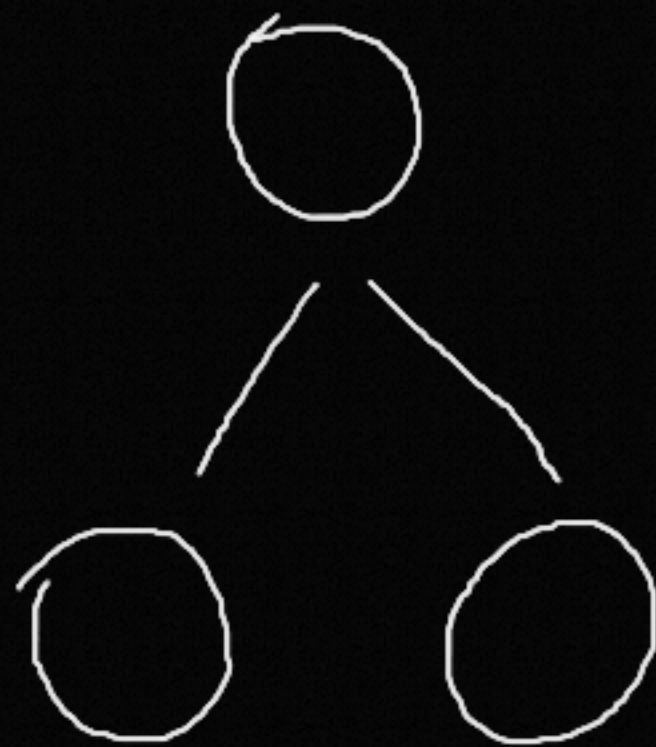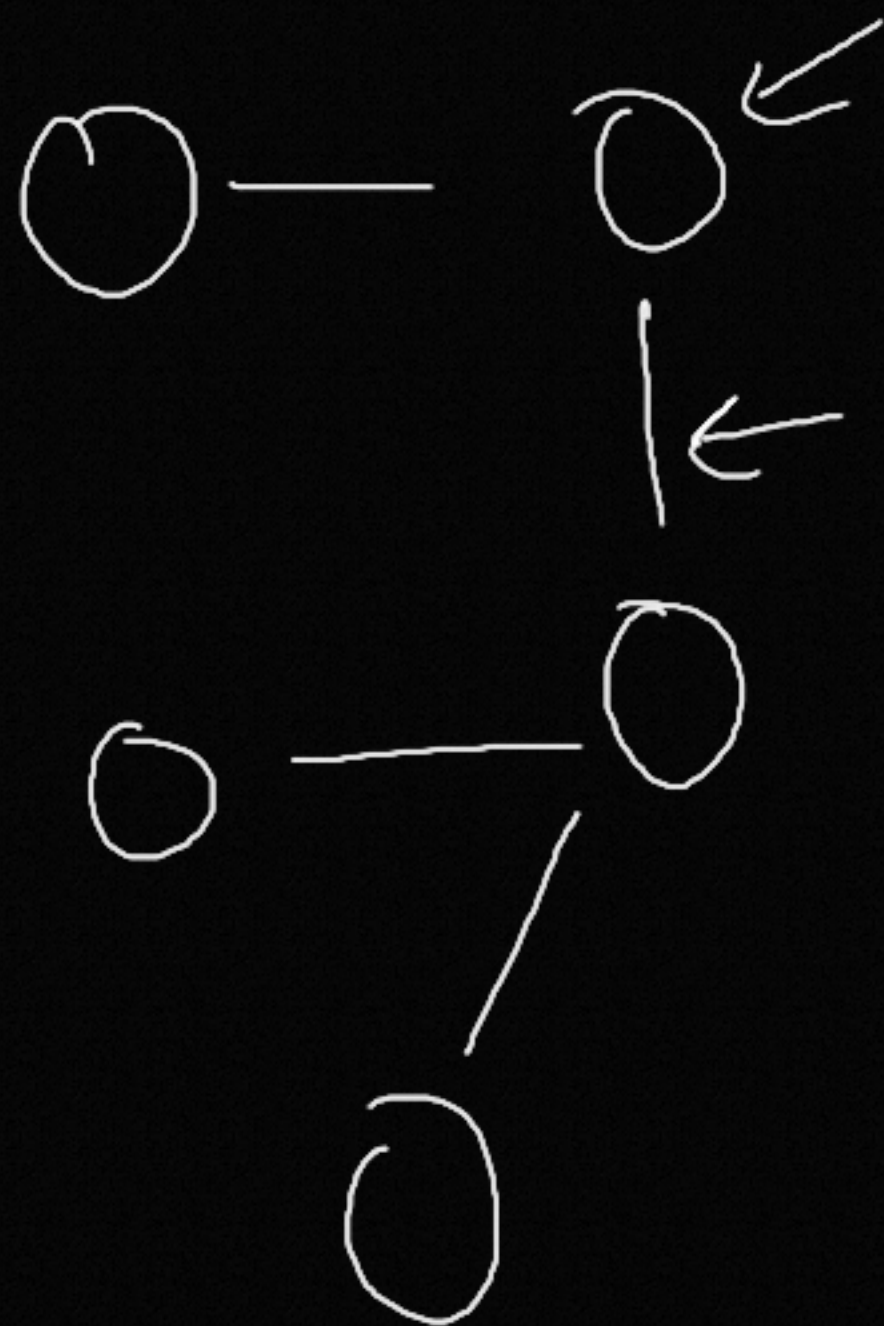
Path: a loot nodes and each of them
are reachable.
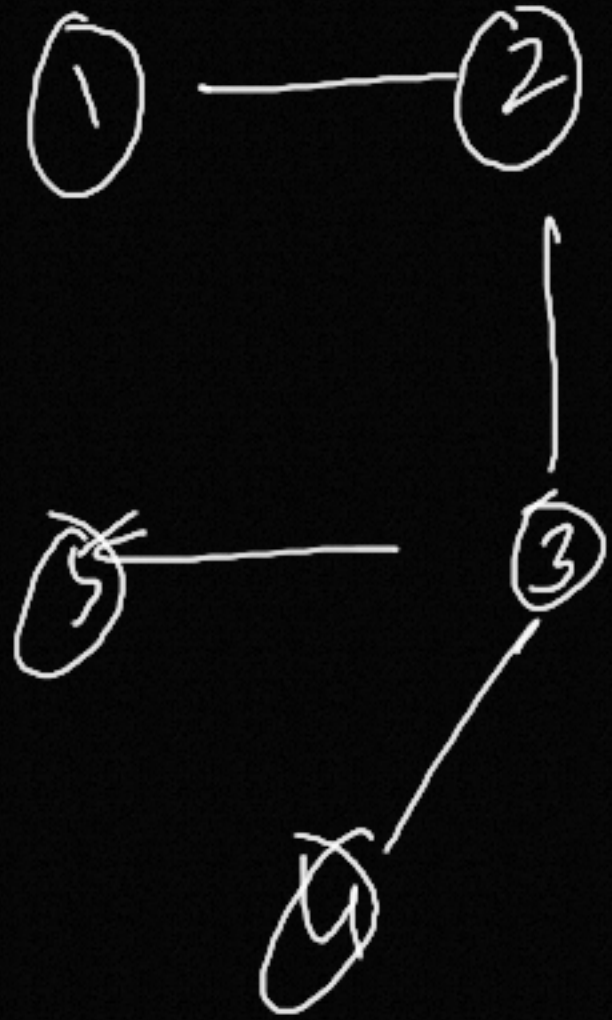


$$1 - 2 - 3 - 4 \quad \checkmark$$

$$1 - 2 - 3 - 5 \quad \checkmark$$

$$1 - 2 - 3 - 2 - 1 \quad \times \quad 2 \times \text{Nodes}$$

# Dijkstra's Algorithm
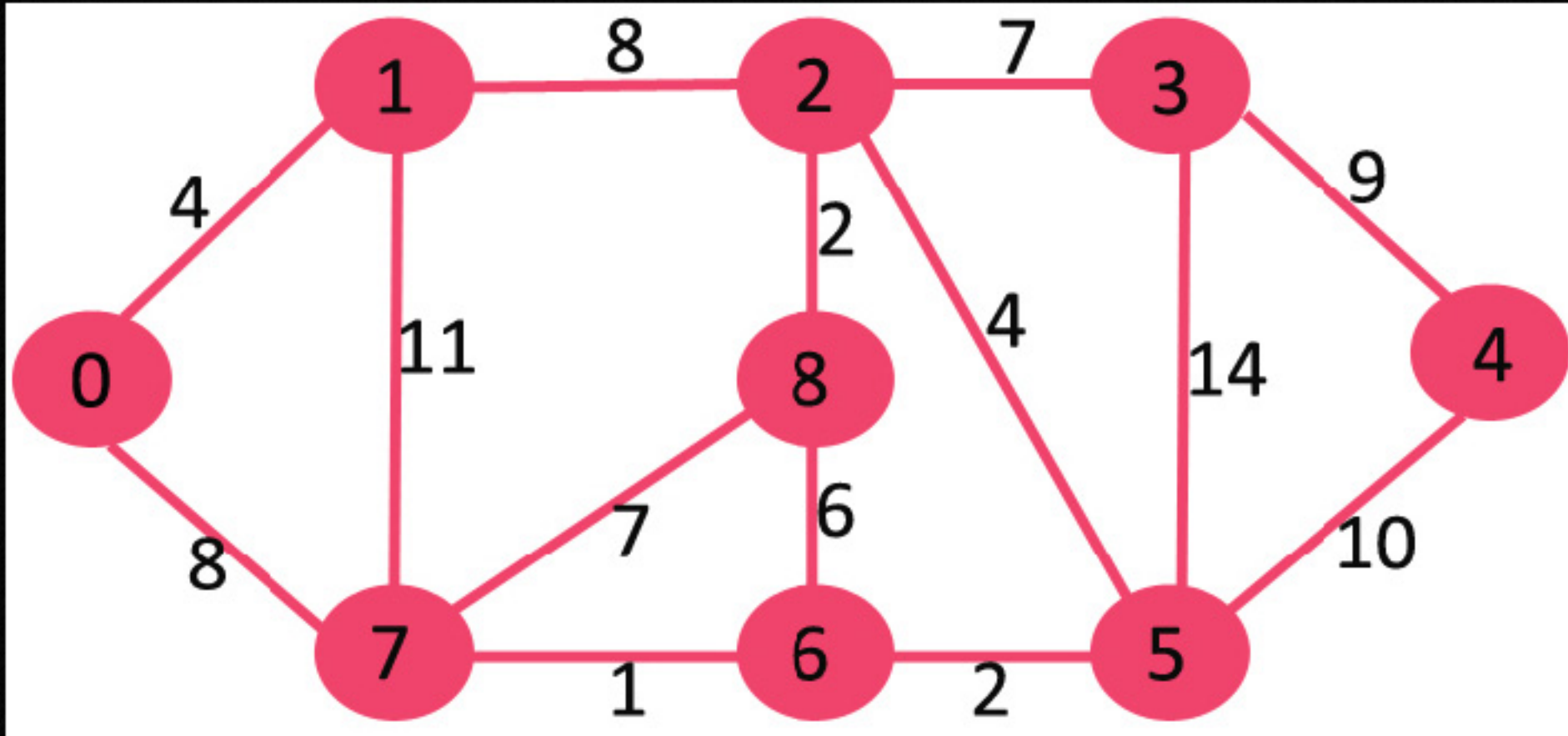


Given a graph and a source vertex in the graph, find the shortest paths from the source to all vertices in the given graph.

# PRIMS ALGORITHM