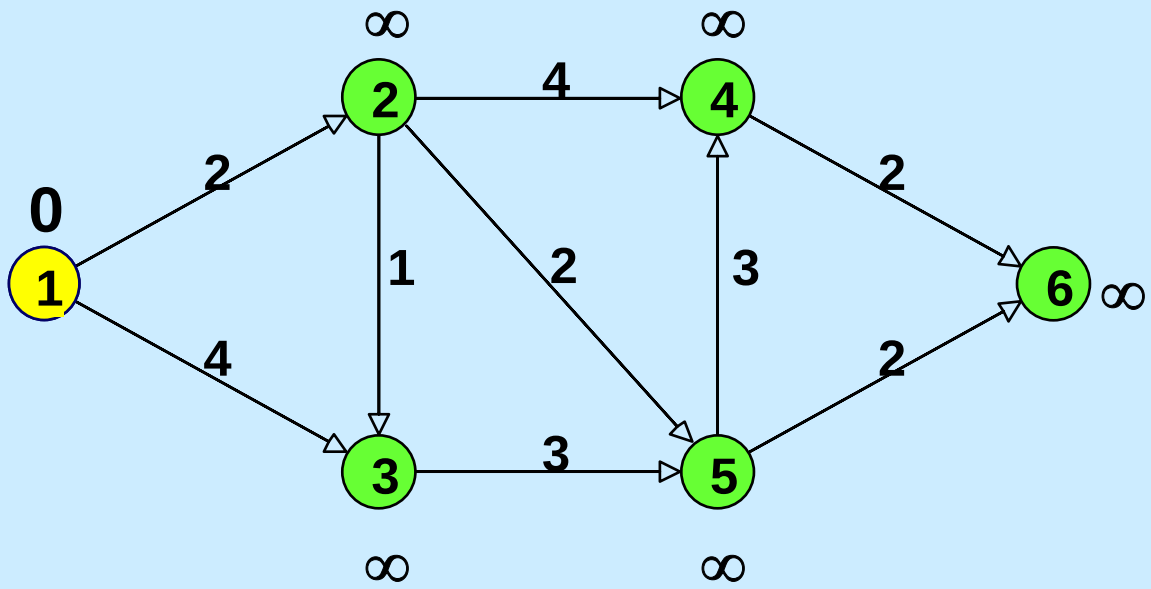
15.082 and 6.855J

Dijkstra's Algorithm

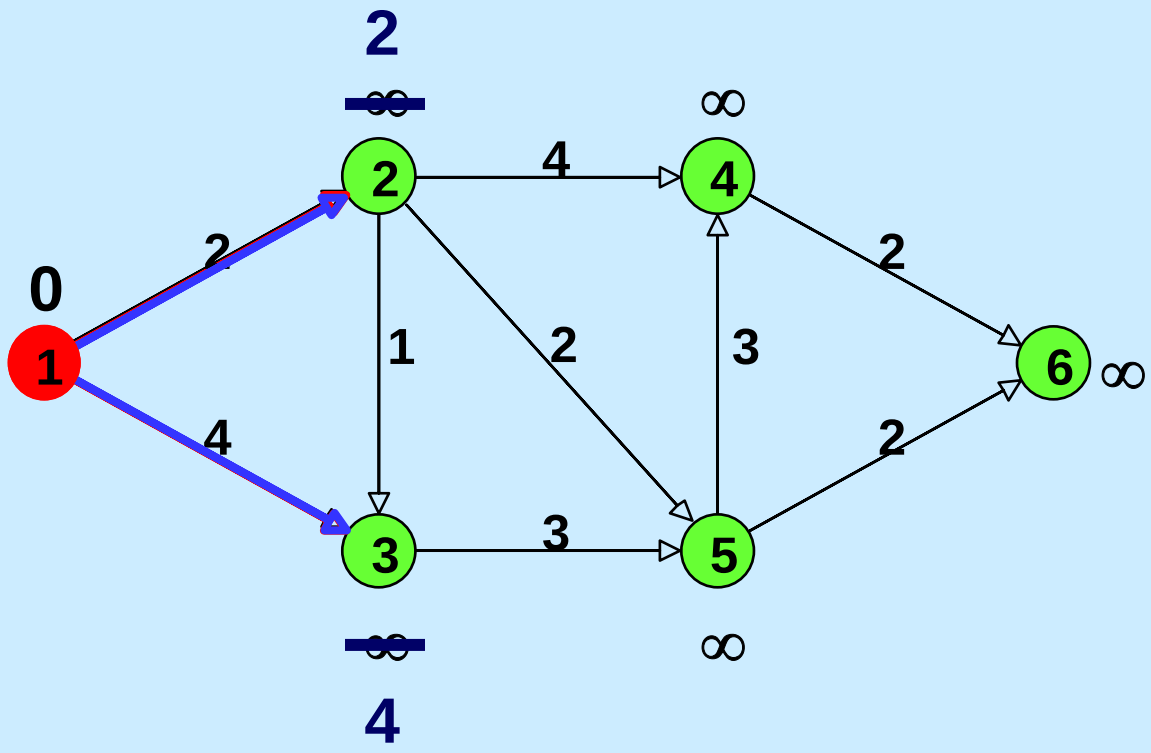
An Example



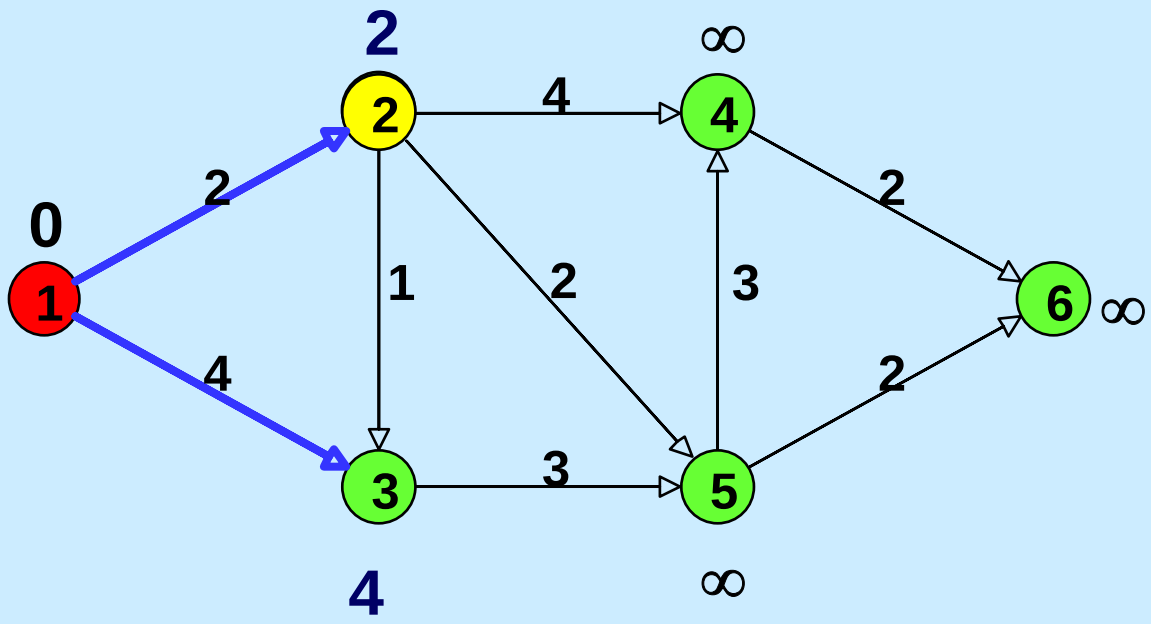
Initialize

Select the node with the minimum temporary distance label.

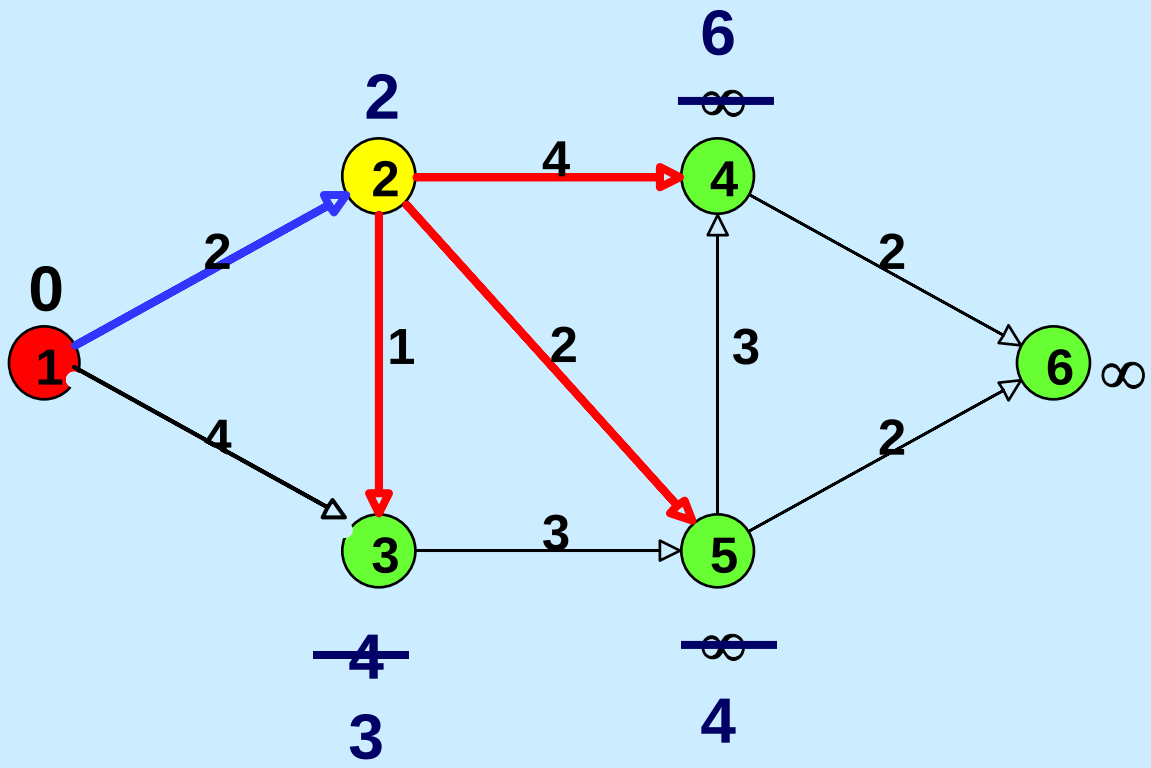
Update Step



Choose Minimum Temporary Label

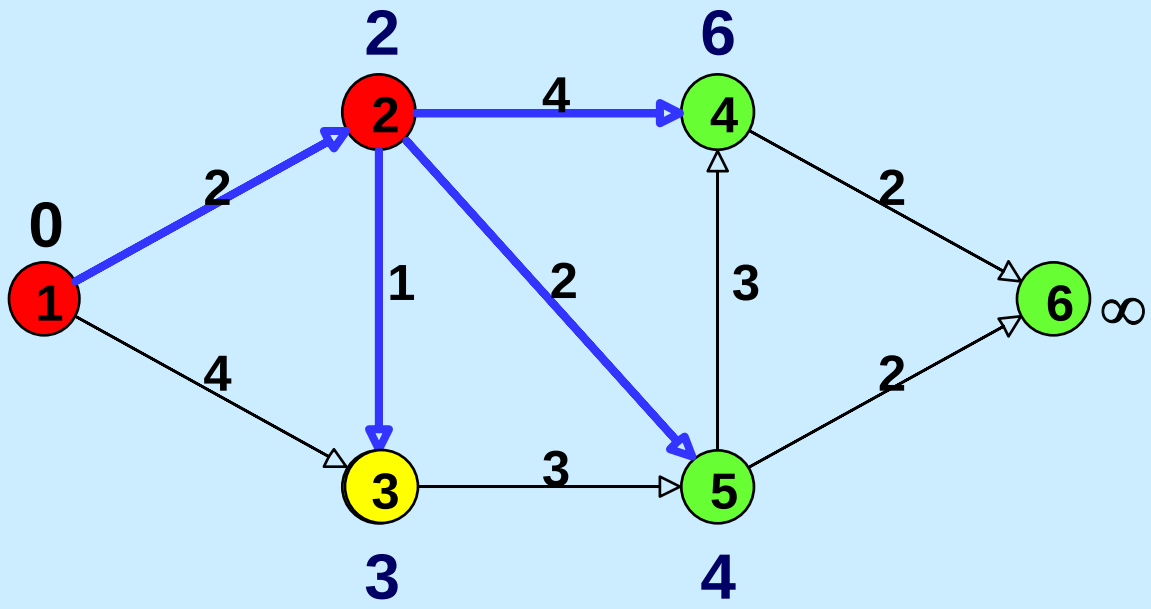


Update Step

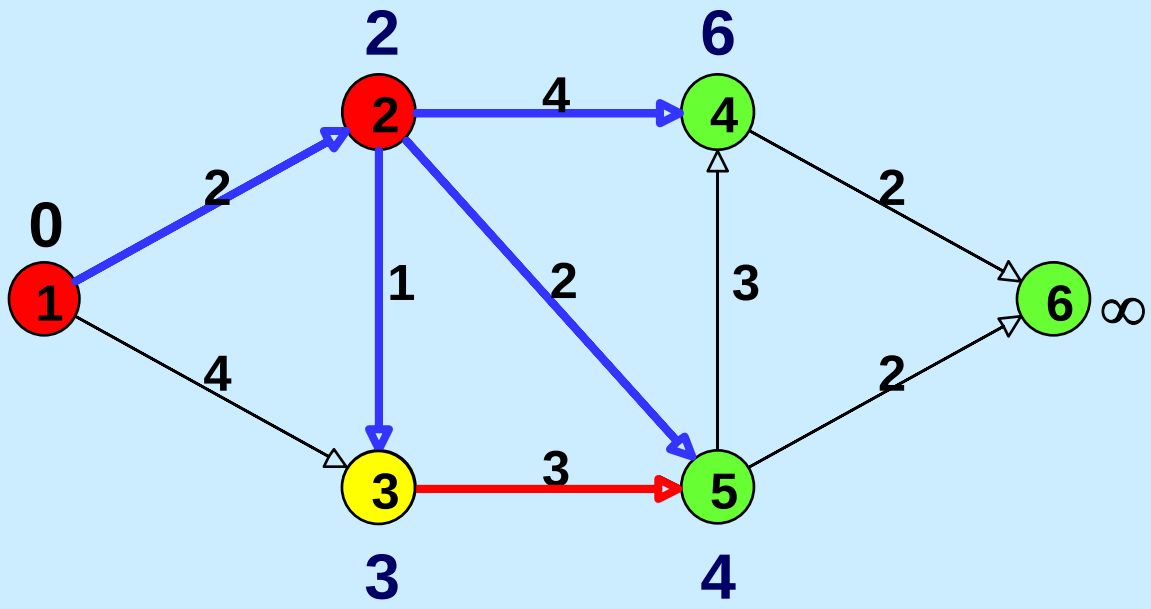


The predecessor of node 3 is now node 2

Choose Minimum Temporary Label

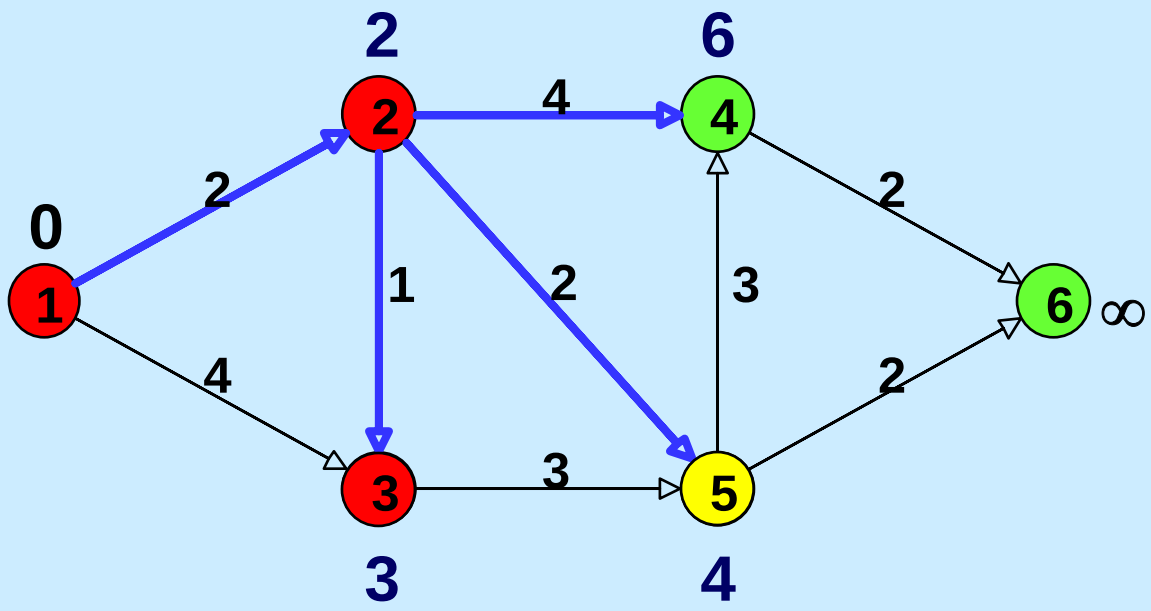


Update

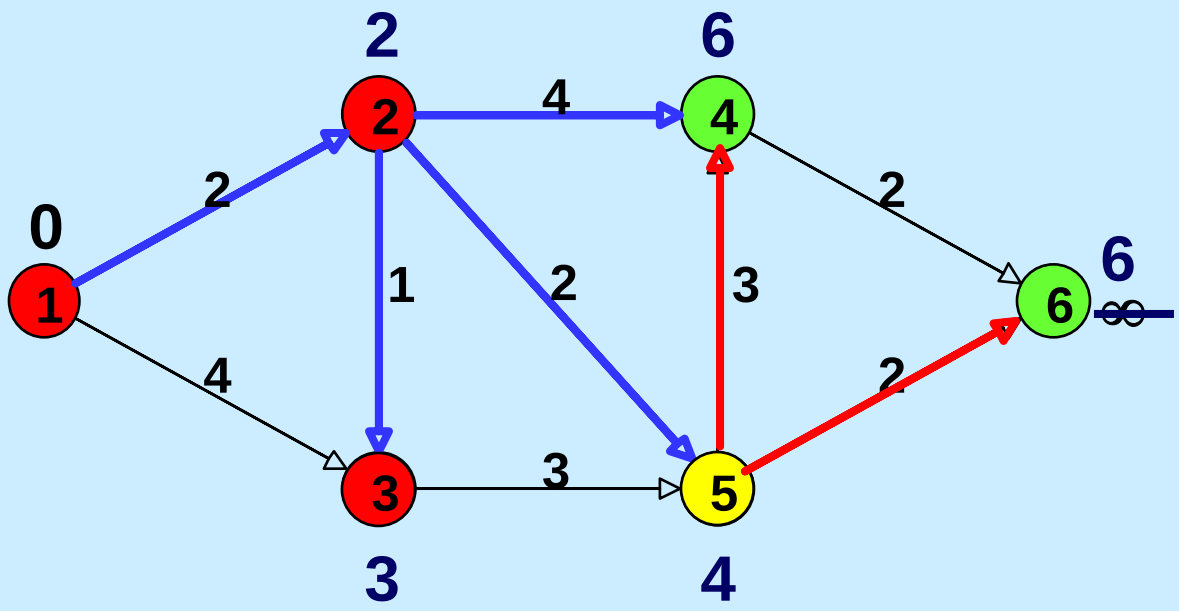


d(5) is not changed.

Choose Minimum Temporary Label

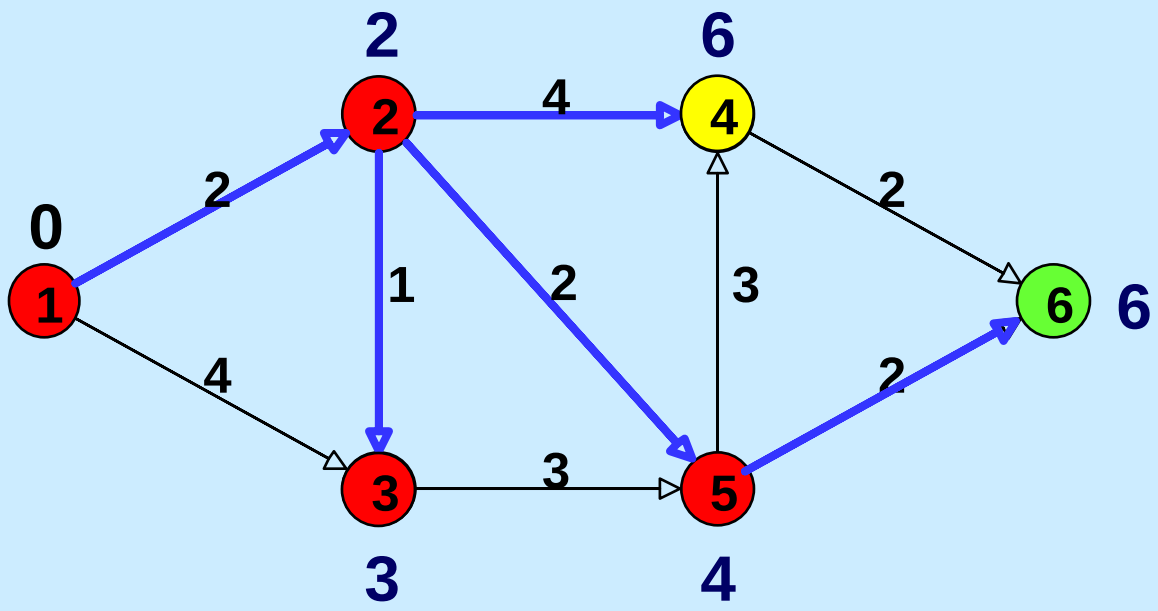


Update

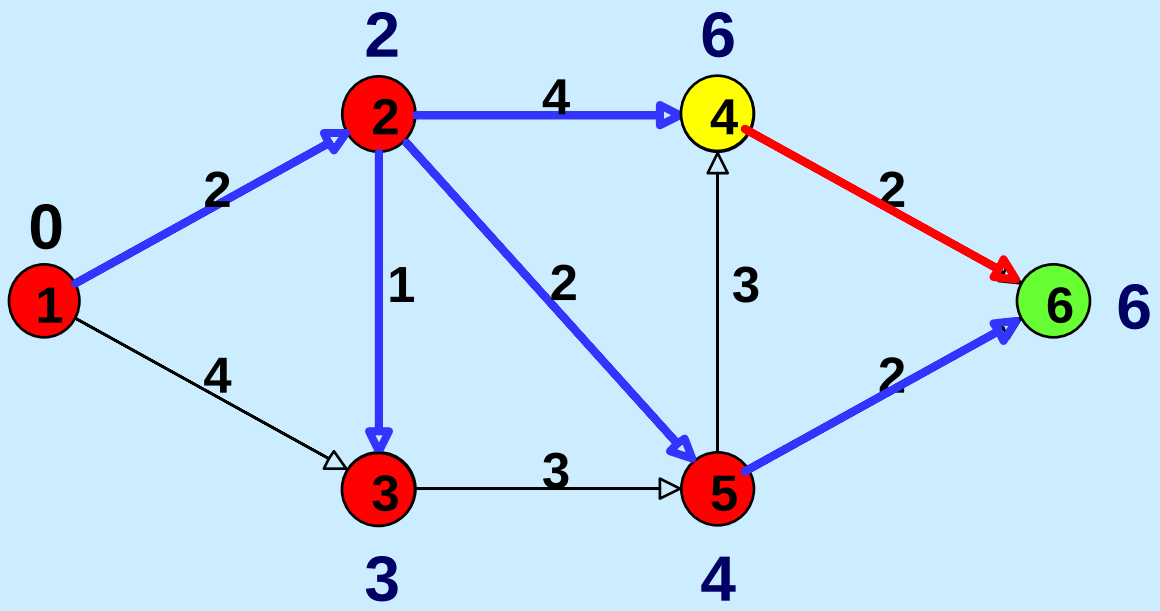


d(4) is not changed

Choose Minimum Temporary Label

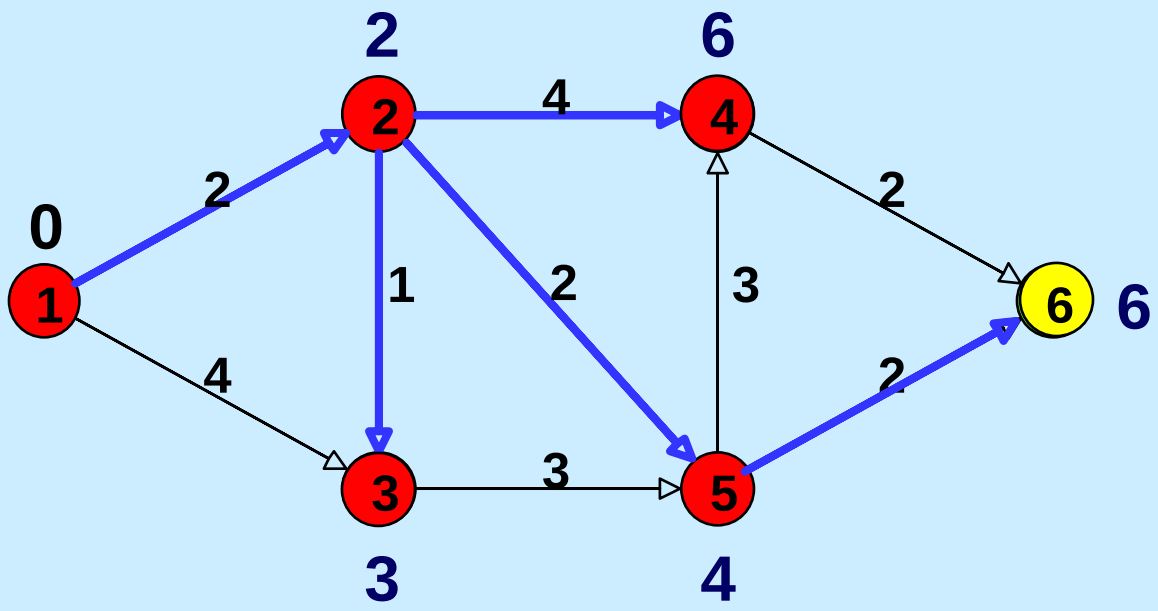


Update



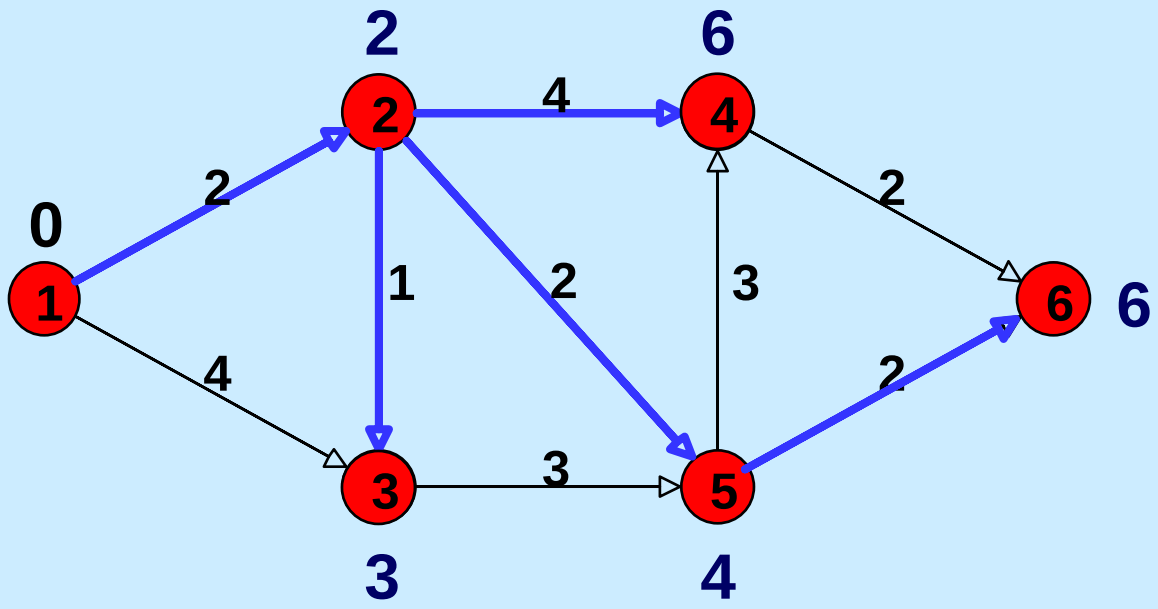
d(6) is not updated

Choose Minimum Temporary Label



There is nothing to update

End of Algorithm



All nodes are now permanent

The predecessors form a tree

The shortest path from node 1 to node 6 can be found by tracing back predecessors