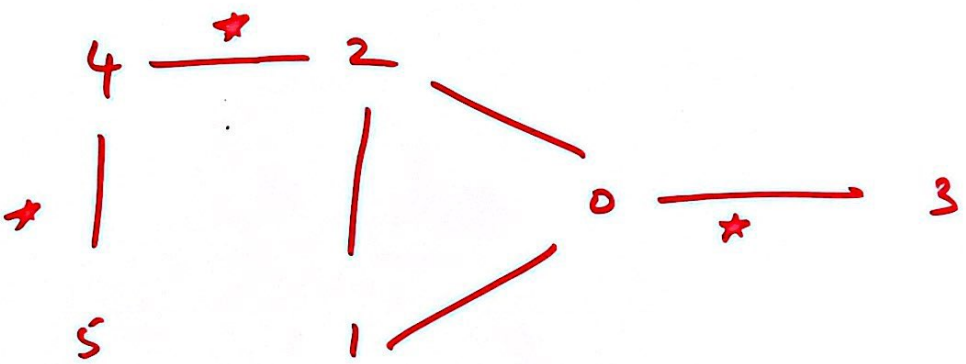
CRITICAL CONNECTIONS IN A NETWORK

DISCOVERY TIME: Time at which a node was visited.

LOWEST: Also the time at which a node was visited but for all nodes part of a cycle, this value is updated to the min value in the cycle.

0 — 1, 2, 3
1 — 0, 2
2 — 0, 1, 4
3 — 0
4 — 2, 5
5 — 4



DISCOVERY TIME : [-1 -1 -1 -1 -1 -1]
0 1 2 3 4 5

LOWEST : [0 0 0 0 0 0]
0 1 2 3 4 5

Start traversal from any node in the graph!
Let's say we started from 1.

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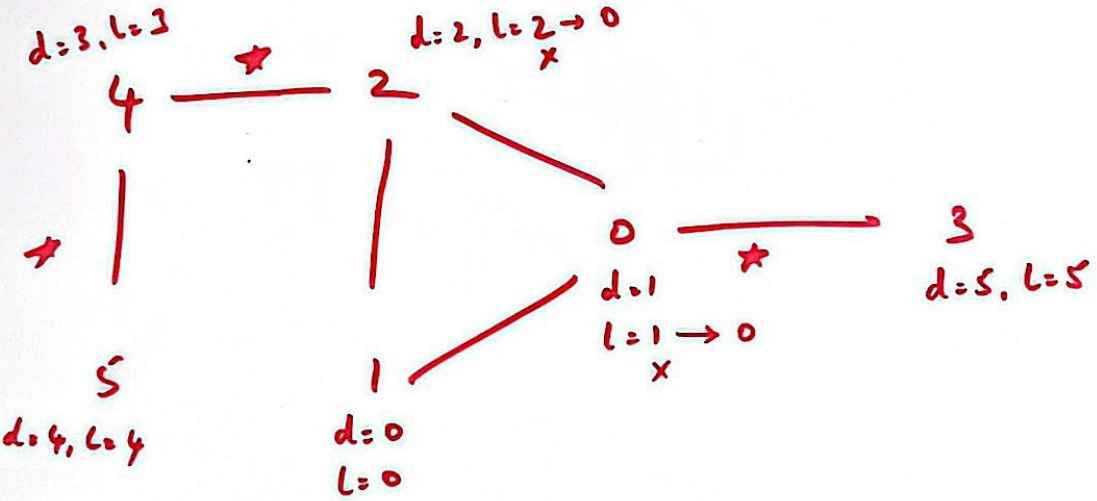

DISCOVERY TIME : [-1 -1 -1 -1 -1 -1]
0 1 2 3 4 5

LOWEST : [0 0 0 0 0 0]
0 1 2 3 4 5

Critical connections : (4,5) (2,4), (0,3)

↳ Add to it when lowest of child > discovery time of parent

Tarjan's Algorithm