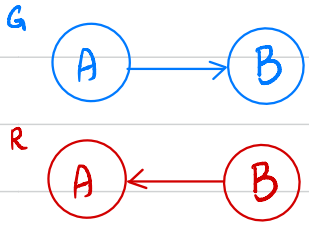
1. 1° ∵ A can reach SCC(B) but B cannot reach A



∴ ① finish time of A > that of B.

② A、B belong in different SCC.

2° In the reverse graph we know, SCC(B) can reach A but A cannot reach SCC(B) (they belong in different SCC).

∴ we know for the vertex in SCC(B) that is closest to A, it only finish after A is finish (A cannot reach SCC(B)). Thus, A finish earlier than at least one element in SCC(B) when run DFS in $\mathcal{R}$.

2. 1° Without lost of generality, suppose finish time in $\mathcal{R}$ when DFS ⇒ A > B.

⇒ A can reach B in $\mathcal{R}$ ⇒ B can reach A in G

2° So if A、B is not in the same SCC, we cannot walk from A → B. since it is directed.

Else if A、B is in the same SCC, we can go from A to B in another direction