Algorithms & Models of Computation

CS/ECE 374, Fall 2020

16.6.2

Maximum post numbering and the source of the meta-graph

Post numbering and the meta graph

Claim

Let v be the vertex with maximum post numbering in DFS(G). Then v is in a SCC S, such that S is a source of G^{SCC} .

Reverse post numbering and the meta graph

Claim

Let v be the vertex with maximum post numbering in $DFS(G^{rev})$. Then v is in a SCC S, such that S is a sink of G^{SCC} .

Holds even after we delete the vertices of S (i.e., the vertex with the maximum post numbering, is in a sink of the meta graph).

Reverse post numbering and the meta graph

Claim

Let v be the vertex with maximum post numbering in $DFS(G^{rev})$. Then v is in a SCC S, such that S is a sink of G^{SCC} .

Holds even after we delete the vertices of S (i.e., the vertex with the maximum post numbering, is in a sink of the meta graph).

THE END

...

(for now)