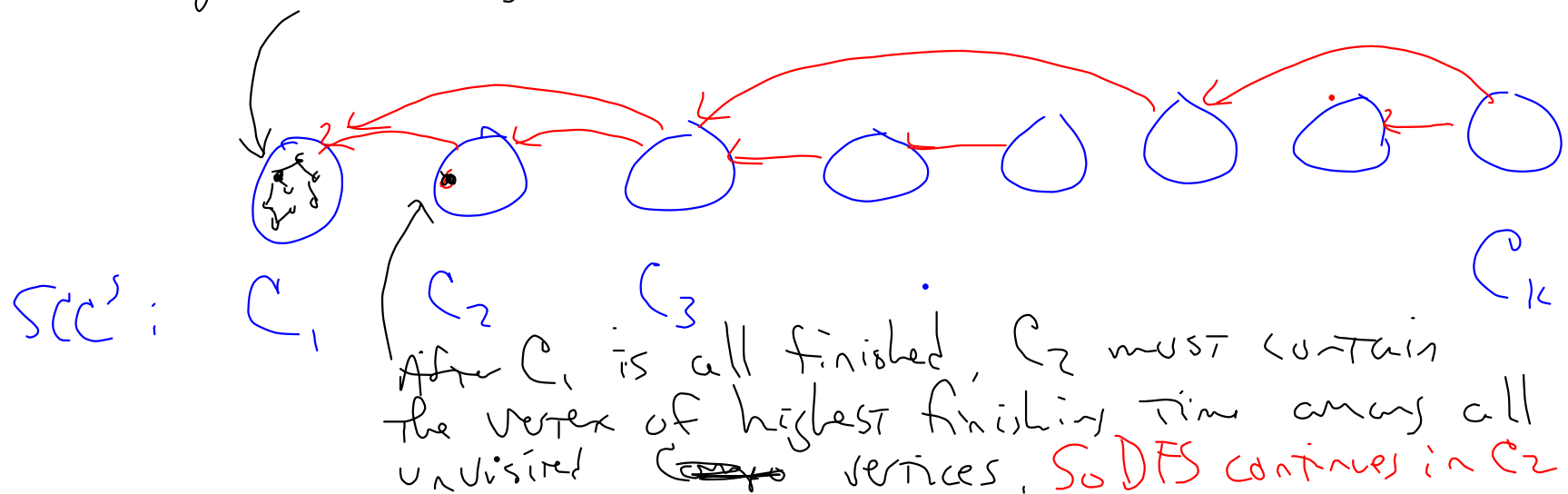


The SCC's of a digraph G are topologically sorted by component finishing times $f(C)$

Highest-to-lowest

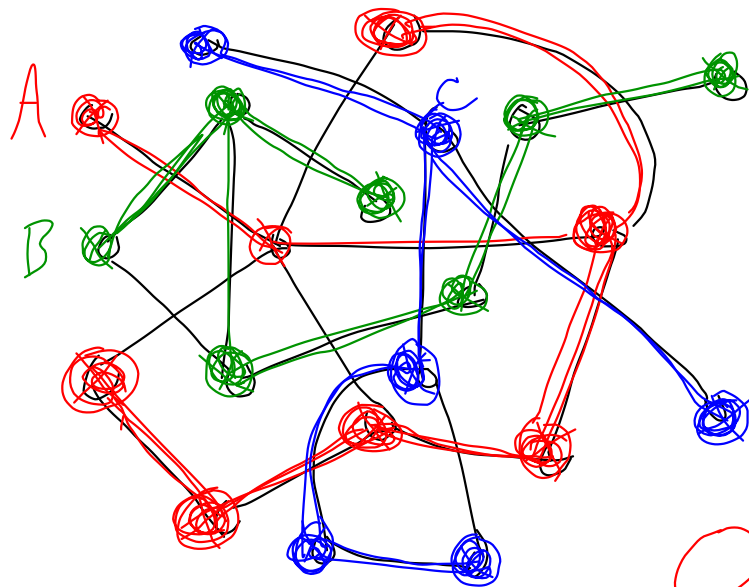
In G^T our DFS starts in C_1 , discovers C_1 , but nothing else. Then, the DFS must go to the next-highest finishing time (of a vertex).

The vertex with highest finishing time



So this last DFS on G^T will return a tree for each SCC in G^T , and these trees are the SCC's of G as well.

What about undirected graphs? Do any old



DFS on the graph. Each tree found in the DFS forest is a SCC of the graph.

Running time =
 $O(\# \text{ vertices} + \# \text{ edges})$

Disjoint Set Data Structures

Our SCC alg

Do a DFS

for each back edge glom the vertices on the implied cycle into one SCC.

How to "glom"?

XC (+10) prove

that glomming,
like this, does find SCCs.
(+15) if it's really nice.

