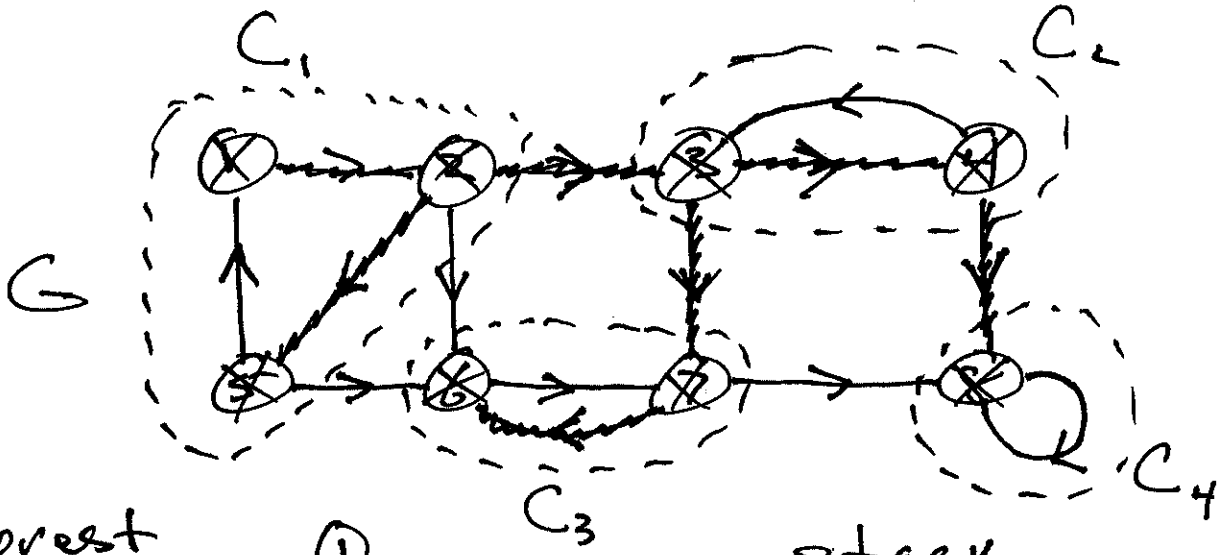
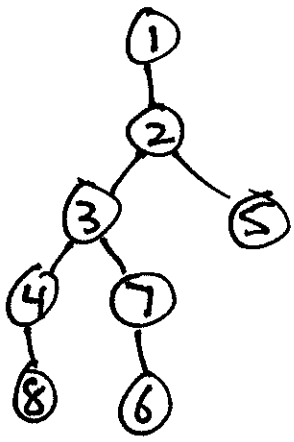
CSE 101 1-29-25

- Midterm 1: Friday 1-31-25
- Pa3: ext. 2 days

Ex. find SCCs:



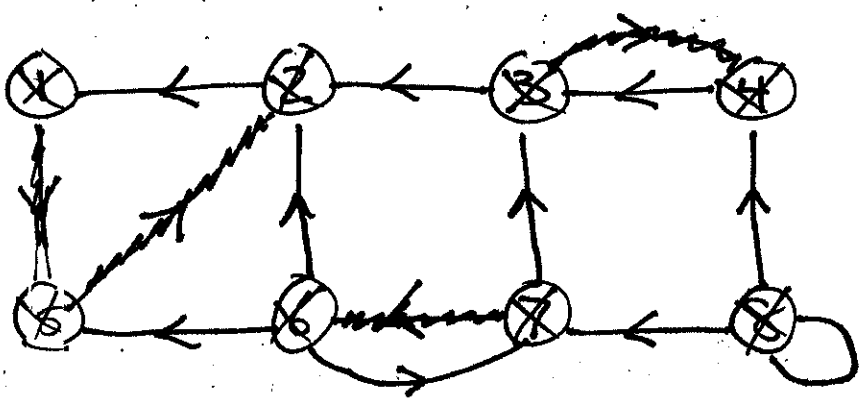
Forest



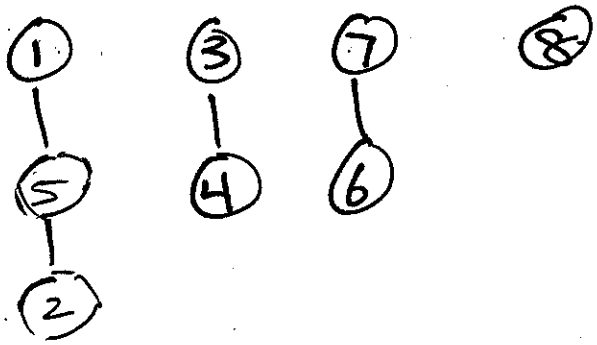
stack

1
2
5
3
7
6
4
8

G^T



Forrest



stack	p
8	n
7	n
6	
3	n
4	
1	n
5	
2	

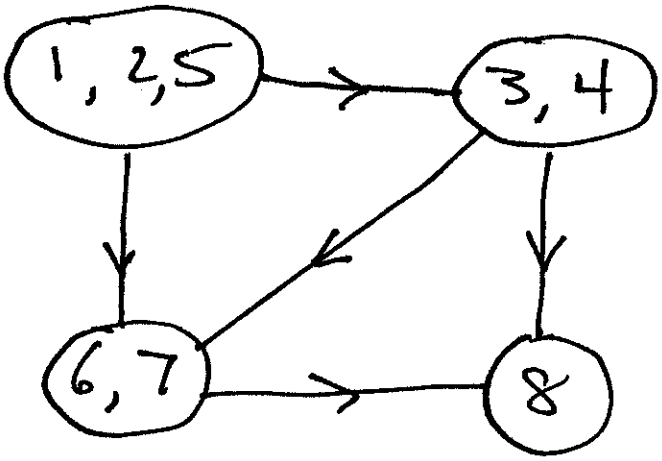
Component graph, Condensation graph

Def: G^{SCC} is the digraph with

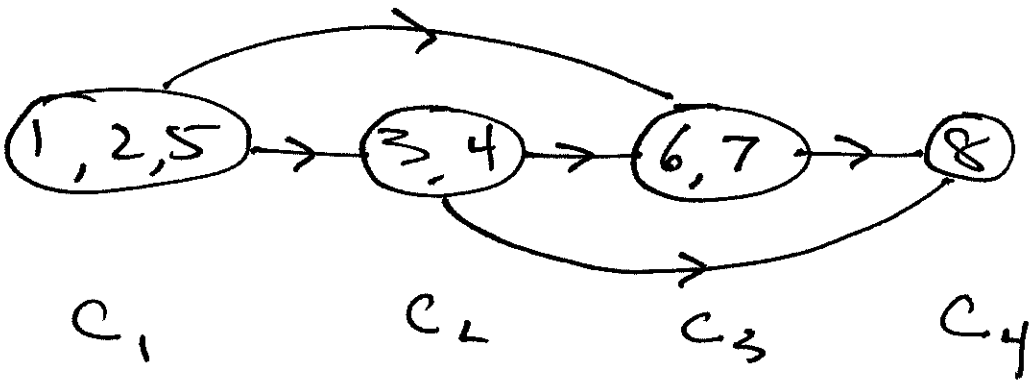
$V = \{$ SCCs of $G\}$

$E = \{(i,j) \mid \exists x \in C_i, y \in C_j \text{ s.t. } (x,y) \in E(G)\}$

G^{SCC}



Topological sort!



Output

1 : 1 5 2

2 : 3 4

3 : 7 6

4 : 8

Prepare $S = (1, 2, 3, \ldots, n)$

↓

DFS(G, S)

|

$\overline{T}$ = transpose(G)

↓

DFS($\overline{T}$, S)

↓

gives you topological sort of SCC's

How to treat S inside DFS, without making copy