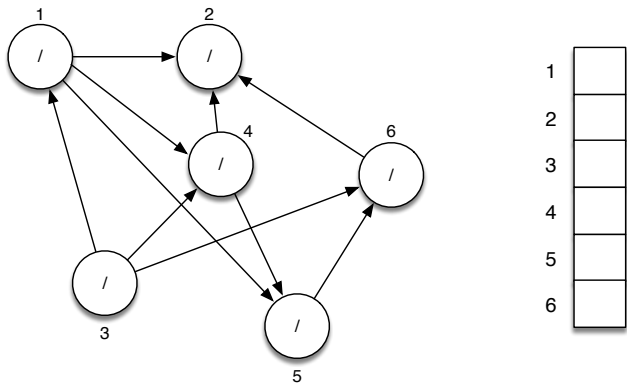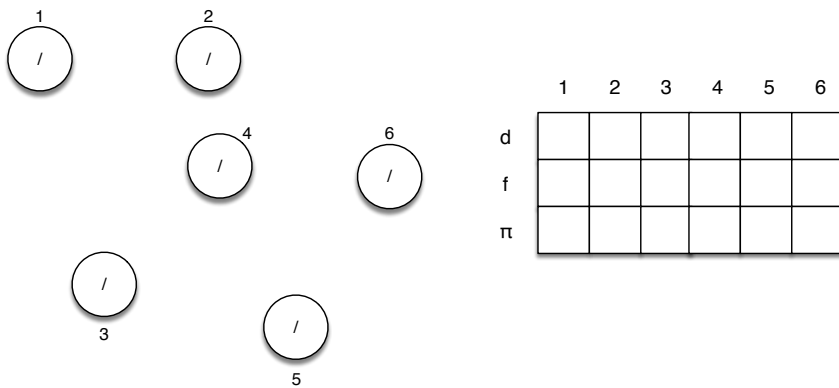Topological Sort. For the following graph,
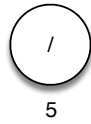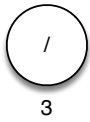
(a) Give an *adjacency list* representation for the graph. Order the lists by increasing vertex indices.

(b) Perform a DFS using vertex 4 as the source. (For any new trees, start at the smallest available vertex index).

(c) Perform a topological sort on the resulting depth first forest.

1

2

4

6

3

5

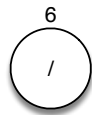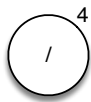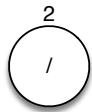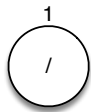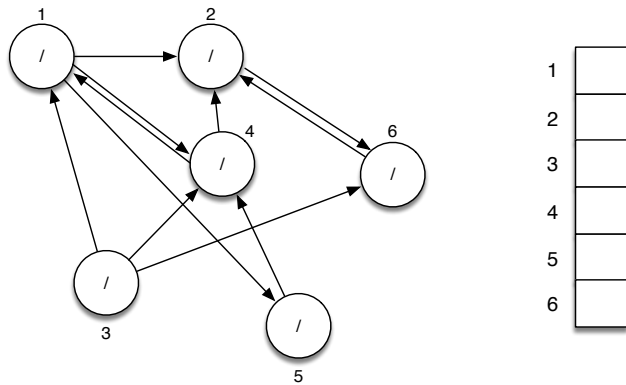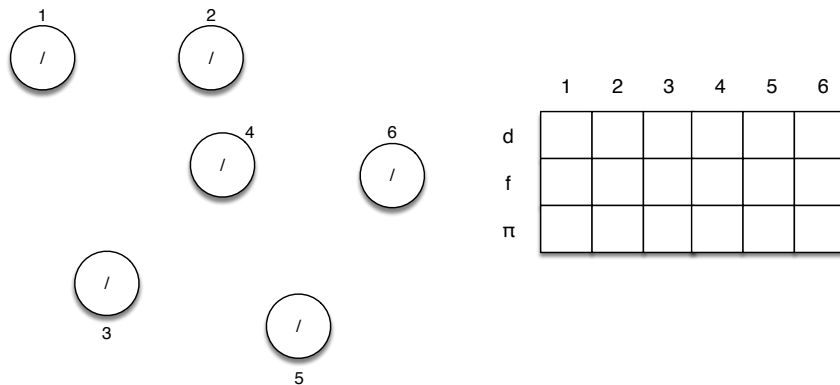Strongly Connected Component Decomposition. For the following graph,

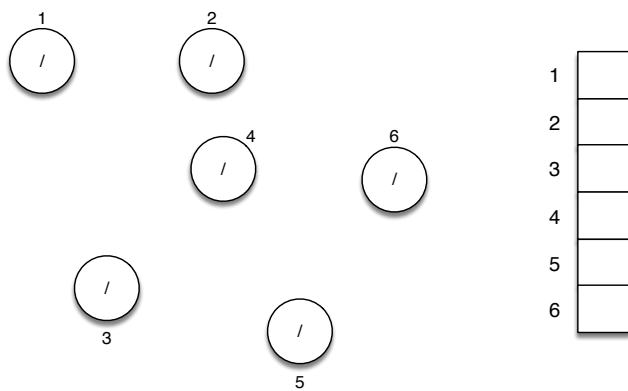(a) Give an *adjacency list* representation for the graph. Order the lists by increasing vertex indices.

1	
2	
3	
4	
5	
6	

(b) Perform SCCD.

i. Run DFS staring at vertex 1. (For any new trees, start at the smallest available vertex index).

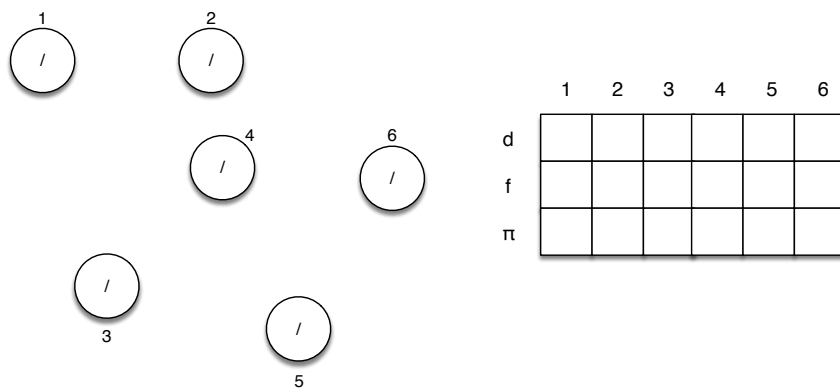|	1	2	3	4	5	6
d						
f						
π						

List the vertices in order of *decreasing* finishing times.

ii. Construct G^T

iii. Run DFS on G^T taking vertices in order from step ii

(c) List the strongly connected components.

1 2

4 6

3

5

1 2

4 6

3

5

1 2

4 6

3

5