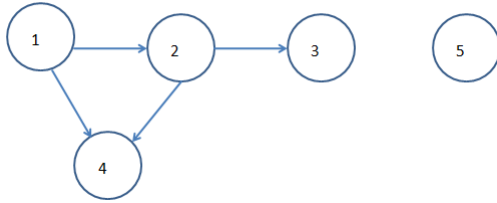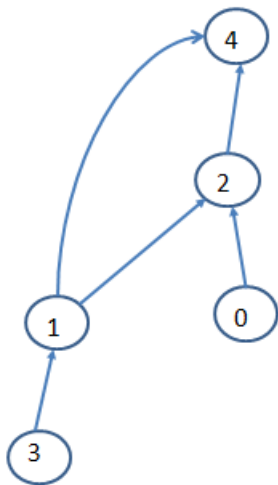# COS226 Week 7 Activity

1. Consider the simple directed graph below. Starting with vertex 1 give the BFS order (listing each vertex as it is dequeued) and DFS preorder (listing all vertices in graph), assuming increasing order to break ties. Algorithms textbook 4.2

2. Suppose you have a digraph as below. Starting at vertex 3, give the DFS postorder, the corresponding topological order, and the strong components for the digraph. Assume increasing order to break ties. Algorithms textbook 4.2

3. Below is the contents of digraph3.txt. Draw the corresponding digraph. Calculate sap(0, 7) and distance(0, 7). Then sap(1, 12) and distance(1, 12).

```
15
15
 1  2
 2  3
 3  4
 4  5
 5  6
 6  1
 7  8
 8  9
 9 10
10 11
11 12
12  8
13 14
14  0
 0 11
```