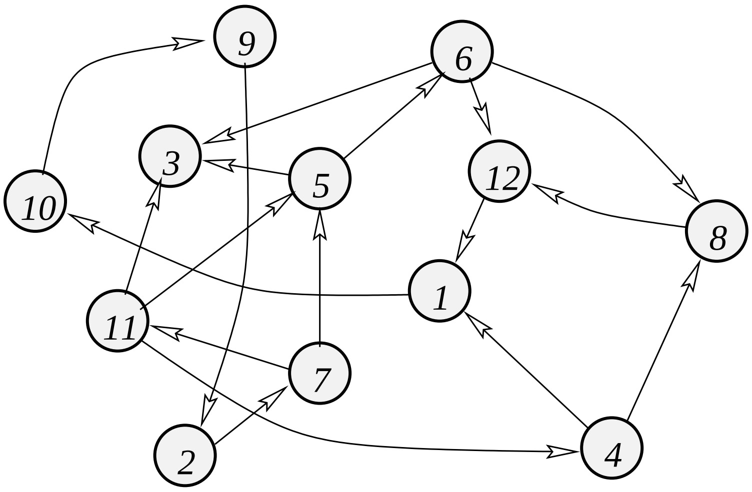
CSE 101 - ALGORITHMS - SUMMER 2000
Quiz 2

Wednesday, July 26th.

Let G be the following graph:



Problem 1: Breadth-First Search

(2 points) List the nodes as they are *discovered* by BFS$(G, 5)$. Use the following 12-element grid:

A solution can be: 5, 3, 6, 8, 12, 1, 10, 9, 2, 7, 11, 4

Problem 2: Depth-First Search

(2 points) List the nodes as they are *discovered* by DFS$(G, 5)$. Use the following 12-element grid:

A solution can be: 5, 6, 12, 1, 10, 9, 2, 7, 11, 4, 8, 3

Problem 3: Topological Sorting 1

(3 points) Show a topological sorting of G, if there is any. Use the following 12-element grid and make sure that you draw *all* the edges (they should all be oriented left-to-right).

There is no topological sorting because G has a cycle.

Problem 4: Topological Sorting 2

(3 points) Now remove the node 7 together with its 3 in or out edges from G. Show a topological sorting of the new G, if there is any. Use the following 12-element grid and make sure thay you draw *all* the edges.

The following is a topological sorting (please add the edges): 11, 5, 6, 3, 4, 8, 12, 1, 10, 9, 2.