

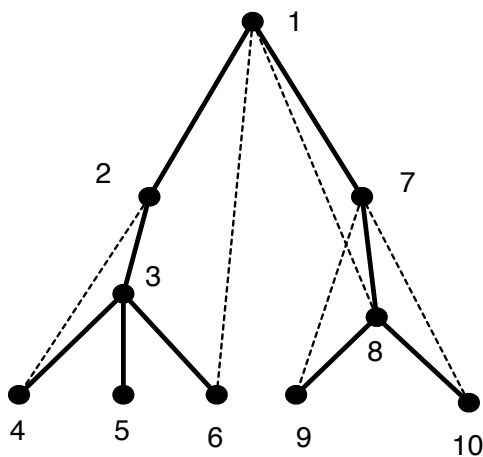
► **Problem DM-6.9-12(a)(b)** Let the graph  $G$  be given by the following adjacency list:

Vertices	List of Adjacencies
1	2 6 7 8
2	1 3 4
3	2 4 5 6
4	2 3
5	3
6	1 3
7	1 8 9 10
8	1 7 9 10
9	7 8
10	7 8

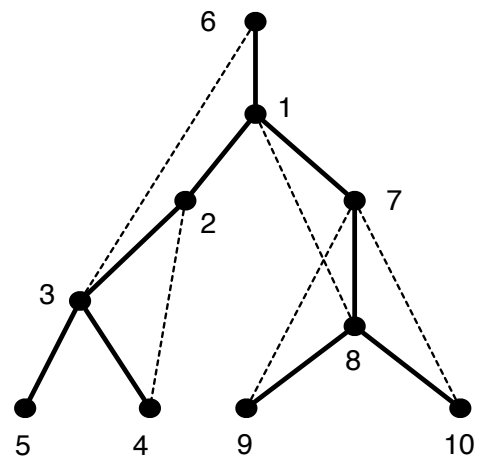
Draw the depth first search tree that results from the following:

- (a) A depth first search on  $G$  beginning at vertex 1.
- (b) A depth first search on  $G$  beginning at vertex 6.

**Solution.**



DFS on  $G$  beginning at vertex 1  
visited ordering: 1 2 3 4 5 6 7 8 9 10



DFS on  $G$  beginning at vertex 6  
visited ordering: 6 1 2 3 4 5 7 8 9 10

□