COMP2014J: Data Structures and Algorithms 2
Trees Exercises

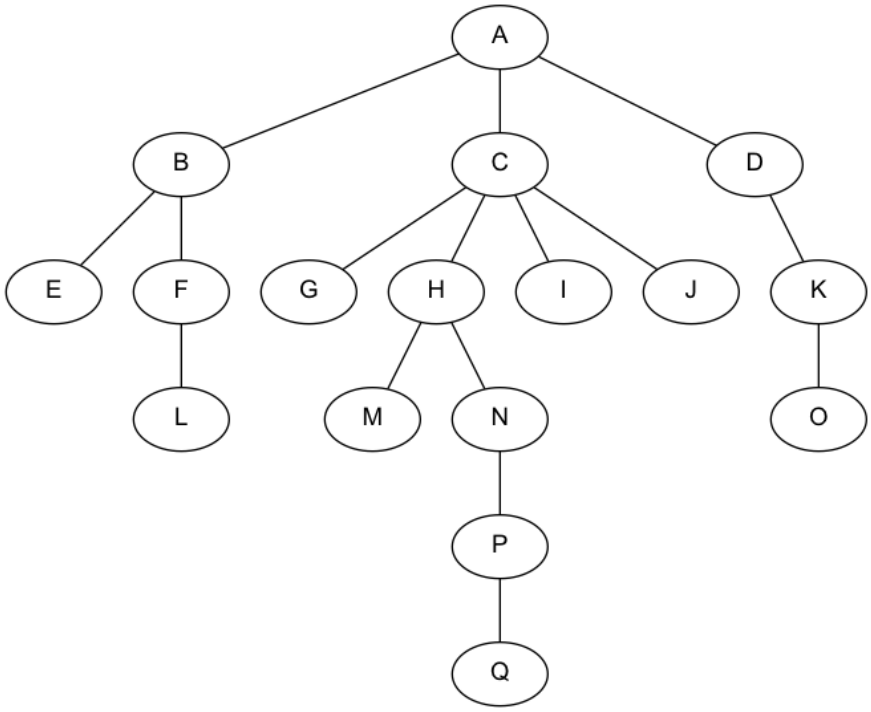

Figure 1

Question 1 (From 2017 Resit Exam Paper)

Study the tree in Figure 1 and answer the questions that follow.

(i) List the siblings of M. N

(ii) What is the depth of L? 3

(iii) How many internal nodes are in the tree? P

(iv) List the ancestors of H. H, C, A

(v) What is the degree of node B? 2

(vi) What is the height of the tree? 6

(vii) List the descendants of D. D, K, O

(viii) Is (P,Q) an edge? Explain your answer. Yes

(ix) Is (F,B,A,C) a path? Explain your answer. NO

(x) List the nodes that are in the subtree that is rooted at B.

B, E, F, L

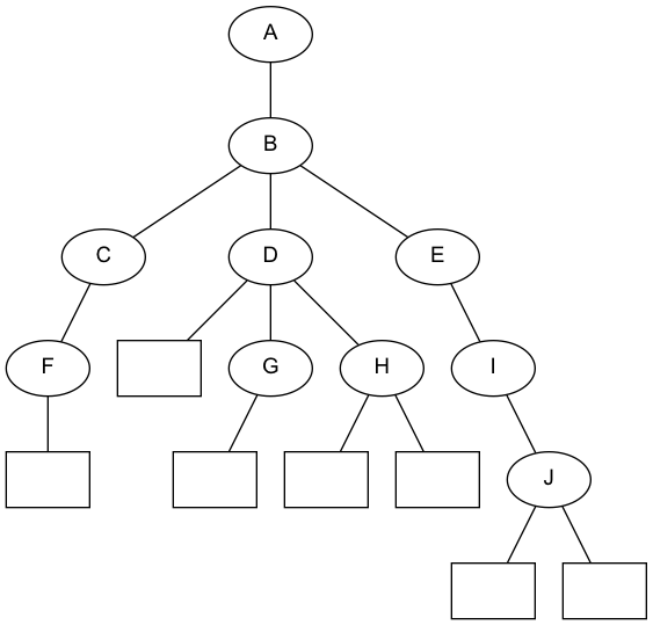

Figure 2

Question 2 (From 2018 Resit Paper)

Study the tree in Figure 1 and answer the questions that follow.

(i) List the siblings of H. G

(ii) What is the depth of D? 2

(iii) List the ancestors of I. I, E, B, A

(iv) What is the degree of node that contains D? 3

(v) List the descendants of E. I, J

(vi) Is (A,B,D,H) a path? Explain your answer. Yes

(vii) How many leaf nodes are in the tree? 7

(viii) List the nodes that are in the subtree that is rooted at B.

B, C, D, E, F, G, H, I, J