

CMPT 307-08-2 Assignment 9

(From lecture on July 8, 2008)

Deadline: July 15, 5:30pm

Problem 9.1. Give a nonrecursive algorithm that performs an inorder tree walk using only a constant memory. Your algorithm can test two pointers for equality.

Problem 9.2. Consider a binary tree T whose keys are distinct. Show that if the right subtree of a node x in T is empty and x has a successor y , then y is the lowest ancestor of x whose left child is also an ancestor of x . (Recall that every node is its own ancestor.)

Problem 9.3. Show that if a node in a binary search tree has two children, then its successor has no left child and its predecessor has no right child.