# Homework 1 Recursive algorithms

1. Give **three** properties of a recursive algorithm. [3]

2. (a) Insert the following numbers into a binary seach tree: 36, 21, 8, 69, 2,19, 50.   
Draw the tree. [5]

(b) Write a recursive algorithm to output a list in sequence from the binary search tree. [5]

# 3. (a) What is the role of the call stack when a recursive subroutine is executed? [4]

(b) Suggest a reason why the computer may crash with an “out of memory” error when a recursive subroutine is run. [1]

Total 18 marks