6.4a Insert the following objects into a 3-way search tree:

$$34, 15, 65, 62, 69, 42, 40, 80, 50, 59, 23, 46, 57, 3, 29$$

6.4b In class, we discussed multiway trees where a node was filled prior to any children being created. Discuss how this would affect the erase member function. How could we adopt the ideas for erasing an element from a binary search tree to a multiway tree?

6.4c What changes would have to be made to the multiway class member variables and the insert member function to accommodate the possibility of a node being not full yet still possibly having a non-zero number of children. What might a reasonable implementation of erase be under such circumstances?

6.4d How many values can be stored in a perfect 8-way search tree of height 6? What is the average depth of a value in such a tree?

6.4e Suppose we have a multiway search tree as described in class. Implement an in-order traversal that prints out the entries in the tree in the form

$$3 < 4 = 4 = 4 < 5 < 6 < 7 = 7 < 8$$

where 3, 4, 4, 4, 5, 6, 7, 7, 8 are the entries in the multiway search tree. If the tree is empty, print nothing. Hint: pass-by-reference and see Questions 6.3.