CMPUT 175 Wi19 - INTRO TO FNDTNS OF CMPUT II

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Lab 10 Exercise

Lab 10 Exercises

Exercise 1:

Consider a binary tree whose values in nodes are real numbers or integers. Your task is to write recursive functions to find the minimum and maximum value in a binary tree. You can start with the following code.

Exercise 2:

In class we talked about the Binary Tree class interface, but we enumerated methods without implementing most of them.

Implement the following methods:

contains(anObject) returns true iff the receiver contains anObject

add(anObject) anObject is added to the receiver (the node with which add is invoked). It will be added as the root or a child of the root if possible, otherwise recursively in the left subtree.

remove(anObject) if receiver contains an element equal to anObject one such element is removed and returned. We delete a node from a Binary Tree by making sure that the tree shrinks from the bottom. So the node to be deleted is replaced by the rightmost leaf node. Here are some examples:

```
Delete 10 in below tree
      10
    /    \
   20    30
Output :
      30
     /
    20

Delete 20 in below tree
      10
    /    \
   20    30
            \
             40
Output :
      10
     /   \
   40     30
```

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