Submit a report that discusses how the fRatio method might be used by an application to keep its search trees reasonably well balanced.

An application could use the fRatio method to keep its search trees reasonably well balanced by calling a balance() method if the fRatio skews to an unbalanced value. For example, this is a randomly generated tree with random values assigned to the nodes (1 to 3000):

Size: 1000

Max Number: 2998

Min Number: 1

Height: 24

Min Height: 1

FRatio: 0.041666666666666664

The fRatio is .04 which indicates the tree is unbalanced. An ideally balanced tree will have a fRatio of 1 which means the minimum height and height of the tree are equal. In the situation with this tree, it would be ideal to call a balance() method to rebalance the tree. This method could be called periodically while building the tree by maintaining a running fRatio. This will have some extra cost associated to it because the fRatio is calculated by traversing the tree. Or, it could be called after the tree has been built, which would allow for only one execution of the minHeight() and height() methods. If the fRatio shows that the tree is unbalanced, then the tree could be rebalanced using the balance() method.