Submit screenshots of the results, and code files in a zip file.

**A screenshot of a computer program

Description automatically generated**

**Figure 1.** Searching the dictionary and adding two words.

A screen shot of a computer

Description automatically generated

**Figure 2.** Displaying dictionary entries via in-order traversal. “apples” becomes the new leftmost leaf node in the binary search tree, so it’s visited first in an in-order traversal.

A screen shot of a computer

Description automatically generated

**Figure 3.** Displaying dictionary entries via in-order traversal. “zebra” becomes the new rightmost leaf node in the binary search tree, so it’s visited last in an in-order traversal.

Creating the dictionary takes advantage of the sorted nature of the input file. The code jumps to the middle of the file less ½ of the desired number of words to insert to the binary search tree. These words are read into a vector, and the words are added to the (2, 3) tree starting from the beginning of the vector. After an insertion, an overflow of a 3-node causes a restructuring of the tree, which may propagate up to its parent recursively. In other words, insertions maintain balance by redistributing keys among nodes or splitting nodes when they overflow.