FIT2004: Lab questions for week 7

Objectives: This prac provides a platform for you to learn the formal concepts introduced during lectures in weeks 5& 6. Primarily, these concepts include the construction and basic operations on integer and string search and retrieval trees. NOTE: This prac is **NOT** assessed. You are free to write programs in Java or Python, whichever you find convenient.

1. Write a program to generate a `Trie` from a given set of strings (to be read from a file at command line). Your program should support basic operations such as: `insertWord`, `deleteWord`, `searchWord`, `printWords`[1]. As on of the possible a possible set of strings to start testing your program, consider the following:

   ```
   1 rubicundus
   2 romulus
   3 romane
   4 rubicon
   5 ruber
   6 romanus
   7 rubens
   ```

   (This part is not compulsory: you all will know about the *autocomplete* feature on iPhone/Google Search etc. You might want to think about ways to implement autocomplete using a trie.[2])

2. Write a program to construct an AVL tree from a set of distinct integers. Your program should support `search`, `insert` and `delete` operations while always ensuring that the AVL tree structural property is maintained. Test your program on (starting with) the exercise given in this weeks Tute sheet.

```
-=o0o=-
  END
-=o0o=-
```

[1] in a lexicographic order

[2] Thanks to Phil Abramson, your Tutor, for suggesting autocomplete extension.