



Discussion 9: Exercises



Array Based Symbol Table Spell Checker

Exercise 1. (*Array-based Symbol Table*) Implement a data type called `ArrayST` that uses an unordered array as the underlying data structure to implement the basic symbol table API.

```
>_ ~/workspace/project5  
  
$ java ArrayST < data/tinyST.txt  
S 0  
E 12  
A 8  
R 3  
C 4  
H 5  
X 7  
M 9  
P 10  
L 11
```

Exercise 2. (*Spell Checker*) Implement a program called `spell` that accepts *filename* (String) as command-line argument, which is the name of a file containing common misspellings (a line-oriented file with each comma-separated line containing a misspelled word and the correct spelling); reads text from standard input; and writes to standard output the misspelled words in the text, the line numbers where they occurred, and their corrections.

```
>_ ~/workspace/project5

$ java Spell data/misspellings.txt < data/war_and_peace.txt
wont:5370 -> won't
unconsciousness:16122 -> unconsciousness
accidentally:18948 -> accidentally
leaded:21907 -> led
wont:22062 -> won't
acquaintance:30601 -> acquaintance
wont:39087 -> won't
wont:50591 -> won't
planed:53591 -> planned
wont:53960 -> won't
Ukranian:58064 -> Ukrainian
wont:59650 -> won't
consciousness:59835 -> consciousness
occurring:59928 -> occurring
```