Course: CSC 340.05 Toe

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Teammate: None

Assignment Number: 02

Assignment Due Date & Time: 10-04-2019 at 11:55 PM

**Program Analysis to Program Design**

*Your analysis of the provided information and the provided sample output. Compare to the ASMT 01 Java version.*

The provided information and sample output were quite similar to that of assignment 1, except of course the added text file and the associated directions in regard to it. There is also some slight variance within the given output and the added clarification that we cannot search the text document for out words but must search our data structure.

*What problem you are solving. How it is different from that of ASMT 01.*

The problem we are solving is most different due to the extraction of information from the text file. We must separate the information in a specific way instead of being able to start with the information separated due to our own enum definitions. We are also solving the problem of deciphering the user's inputs and then being able to handle all possible cases without allowing the user to break the program.

*How you load data from the data source. What the steps are. Why these steps.*

I am loading the data from the data source via the fstream package that can be included within a C++ program. I begin by created an fstream, string vector, and string variable in order to parse all of the data that is incoming and store the individual components. I then open the file and stream all the data until it reaches the end of the file. I store each line of the file using getline() within a token variable and then insert those tokens into my string vector. After the file reaches its end, I close the file and then send my string vector off to be added into my map.

*Which data structure(s) you use/create for your dictionary. And why.*

I chose to use a map with the key being a string and the value being a vector of strings. I chose this data structure because it would be relatively light while also allowing for the flexibility to add any amount of definitions necessary for each word.

**Program Implementation**

*Does your program work properly?*

As far as I can tell, my program works correctly based on the given criteria. Attempting to put in all input within the example I am returned with the same output. There is no hard coding as far as I can tell and this program could be easily expanded upon if necessary. There is also no real way to break the program if you give it too many inputs or completely random characters.

*How will you improve your program?*

I would improve my program by making it more object oriented with classes. Currently it is extremely procedural which could pose as a problem down the road of implementation. It

could also surely be improved as far as memory resources go. I am still getting a handle on pointers and there are probably values being copied throughout that don't necessarily have to be.

## Example Output

```
/Users/stevenmchenry/dev/Sfsu/CSC_340/Assignment-02-Code/dictionary/cmake-build-debug/dictionary
!Opening data file... ./Data.CS.SFSU.txt
!Loading data...
!Loading completed...
!Closing data file... ./Data.CS.SFSU.txt

----- DICTIONARY 340 C++ -----

Search: aRRow
|
 Arrow [noun] : Here is one arrow: -=>>.
|
Search: disTINCT
|
 Distinct [adjective] : Familiar. Worked in Java.
 Distinct [adjective] : Unique. No duplicates. Clearly different or of a different kind.
 Distinct [adverb] : Uniquely. Written "distinctly".
 Distinct [noun] : A keyword in this assignment.
 Distinct [noun] : A keyword in this assignment.
 Distinct [noun] : A keyword in this assignment.
 Distinct [noun] : An advanced search option.
 Distinct [noun] : Distinct was in ASMT 01 as a parameter.
|
Search: distinct distinct
|
 Distinct [adjective] : Familiar. Worked in Java.
 Distinct [adjective] : Unique. No duplicates. Clearly different or of a different kind.
 Distinct [adverb] : Uniquely. Written "distinctly".
 Distinct [noun] : A keyword in this assignment.
 Distinct [noun] : An advanced search option.
 Distinct [noun] : Distinct was in ASMT 01 as a parameter.
|
Search: distinct noun distinct
|
 Distinct [noun] : A keyword in this assignment.
 Distinct [noun] : An advanced search option.
 Distinct [noun] : Distinct was in ASMT 01 as a parameter.
|
Search: plAcEholDER
|
 Placeholder [adjective] : To be updated...
 Placeholder [adjective] : To be updated...
 Placeholder [adverb] : To be updated...
 Placeholder [conjunction] : To be updated...
 Placeholder [interjection] : To be updated...
 Placeholder [noun] : To be updated...
 Placeholder [noun] : To be updated...
 Placeholder [noun] : To be updated...
 Placeholder [preposition] : To be updated...
 Placeholder [pronoun] : To be updated...
 Placeholder [verb] : To be updated...
|
Search: placeHOLDER adjective
|
 Placeholder [adjective] : To be updated...
 Placeholder [adjective] : To be updated...
|
Search: placeholDER adjective distinct
|
 Placeholder [adjective] : To be updated...
|
Search: placehOLDER distinct
|
 Placeholder [adjective] : To be updated...
 Placeholder [adverb] : To be updated...
 Placeholder [conjunction] : To be updated...
 Placeholder [interjection] : To be updated...
 Placeholder [noun] : To be updated...
 Placeholder [preposition] : To be updated...
 Placeholder [pronoun] : To be updated...
 Placeholder [verb] : To be updated...
|
Search: csc340 distinct
|
 CSC340 [adjective] : = C++ version of CSC210 + CSC220 + more.
```

```
 76  CSC340 [noun] : A CS upper division course.
 77  CSC340 [noun] : Many hours outside of class.
 78  CSC340 [noun] : Programming Methodology.
 79 |
 80 Search: csc340 noun
 81 |
 82  CSC340 [noun] : A CS upper division course.
 83  CSC340 [noun] : Many hours outside of class.
 84  CSC340 [noun] : Programming Methodology.
 85 |
 86 Search: csc220 adjective distinct
 87 |
 88  CSC220 [adjective] : Ready to create complex data
     structures.
 89 |
 90 Search: cSc210 verb
 91 |
 92  CSC210 [verb] : To learn Java.
 93 |
 94 Search: bOOK distinct
 95 |
 96  Book [noun] : A set of pages.
 97  Book [noun] : A written work published in printed
     or electronic form.
 98  Book [verb] : To arrange arrange for someone to
    have a seat on a plane.
 99  Book [verb] : To arrange something on a
    particular date.
100 |
101 Search: adVERB noun distinct
102 |
103  Adverb [noun] : Adverb is a word that adds more
    information about place, time, manner, cause or
    degree to a verb, an adjective, a phrase or
    another adverb.
104 |
105 Search: adjecTIVE distinct
106 |
107  Adjective [noun] : Adjective is a word that
    describes a person or thing, for example big, red
    and clever in a big house, red wine and a clever
    idea.
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108 |
109 Search: conjuncTION verb
110 |
111  <Not found>
112 |
113 Search: interJECTION noun distinct
114 |
115  Interjection [noun] : Interjection is a short
    sound, word or phrase spoken suddenly to express
    an emotion. Oh!, Look out! and Ow! are
    interjections.
116 |
117 Search: noun noun
118 |
119  Noun [noun] : Noun is a word that refers to a
    person, (such as Ann or doctor), a place (such as
    Paris or city) or a thing, a quality or an
    activity (such as plant, sorrow or tennis).
120 |
121 Search: preposition propersition distinct
122 |
123  <2nd argument must be a part of speech or "
    distinct">
124 |
125 Search: preposition preposition
126 |
127  <Not found>
128 |
129 Search: verb verb distinct
130 |
131  <Not found>
132 |
133 Search: facebook
134 |
135  <Not found>
136 |
137 Search: !Q
138
139 -----THANK YOU-----
140
141 Process finished with exit code 0
142
```