Course: CSC340.01
Student: *Anne Lanaza*
Assignment Number: 02
Assignment Due Date & Time: 07-05-2018 at 11:59 PM

PART 1 – C++ Basics: Data types, Control Structures, String, Arrays… 10 points

PART 2 – Pointers, Reference Variables, Functions, Parameter Passing… 15 points

```
C:\WINDOWS\system32\cmd.exe
 1    371449635398431 is valid
 2   4444444444444448 is valid
 3   4444424444444440 is valid
 4   4110144110144115 is valid
 5   4114360123456785 is valid
 6   4061724061724061 is valid
 7   5500005555555559 is valid
 8   5115915115915118 is valid
 9   5555555555555557 is valid
10   6011016011016011 is valid
11    372449635398431 is not valid
12   4444544444444448 is not valid
13   4444434444444440 is not valid
14   4110145110144115 is not valid
15   4124360123456785 is not valid
16   4062724061724061 is not valid
17   5501005555555559 is not valid
18   5125915115915118 is not valid
19   5556555555555557 is not valid
20   6011116011016011 is not valid
21    372449635397431 is not valid
22   4444544444444448 is not valid
23   4444434444544440 is not valid
24   4110145110184115 is not valid
25   4124360123457785 is not valid
26   4062724061724061 is not valid
27   5541005555555559 is not valid
28   5125115115915118 is not valid
29   5556551555555557 is not valid
30   6011316011016011 is not valid
Press any key to continue . . . _
```

PART 3 – Basics in Dynamic Memory Management, Object Based Programming, Data Structures, File I/O… 35 points

Question #1: Your approach in implementing your program.

-   Since I didn't have any experience in writing a program in C++ language, I have to think of simple ways that I can implement the program. I didn't think much of efficiency because my main goal for this program was to learn the syntax and how to manipulate the data and objects.

Question #2: Which data structures did you use?

-   I used a map and a vector that accepts a pair of strings. Initially, I was thinking of making my own class called Definitions which will accept a pair of strings. I scrapped the idea since I ran into some problems and I was in a time crunch. I didn't have time on my hands and was fortunate to find about the make pair on one of the lectures given, then I decided to use that instead.

Question #3: What did you use the data structures for?

-   I used the map to store the data with string as a key for the first keywords while the vector accepts a pair of strings, the first of which is the part of speech and the other is the definition for it.

Question #4: Why these data structures but not the others?

-   First of all, I used map because I was relatively familiar on how it works from Java. Second, I was planning to use an array but I found out that vector is better since it allocates a memory and extends it if need be. It was also because array size has to be initialized. Lastly, I was still trying to learn how C++ works especially since its better in handling dynamic memory if one knows how to mange it and that was the reason I refused to use smart pointers for fear of doing it wrong.

```
! Opening data file... ./Data.CS.SFSU.txt
! Loading data...
! Loading completed...
! Closing data file... ./Data.CS.SFSU.txt

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

Search: one two three four five siz seven
        |
         <Please enter a search key (and a part of speech).>
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Search:
        |
         <Please enter a search key (and a part of speech).>
        |
Search: one two
        |
         <2nd argument must be a part of speech.>
        |
Search: one noun
        |
         <Not found.>
        |
Search: cSC340 noun
        |
         CSC340 [noun] : A CS upper division course.
         CSC340 [noun] : Many hours outside of class.
        |
Search: csc340
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         CSC340 [adjective] : C++ version of CSC210 + CSC220 + more
         CSC340 [noun] : A CS upper division course.
         CSC340 [noun] : Many hours outside of class.
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Search: csc340 verb
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Search: csc220
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         CSC220 [adjective] : Ready to create complex data structures.
         CSC220 [noun] : Data Structures.
         CSC220 [verb] : To create data structures.
        |
```