

# Specifications for main C++ app

## Word-manipulation Language

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**Description:** a simple scripting language that allows to operate on a list of words. Lists can be created either from a default word database, loaded from previously saved lists by user, or combined from existing lists. After the list of words is defined, the user then can proceed with corresponding manipulations to obtain words that match a certain pattern. Patterns include, to name just a few: specific length, presence or absence of letters in a particular position, words that contain only specific letters, etc. Upon each application of a rule, the number of words that match this rule is displayed. At any point while using the program, the user can request the list of filtered words to be printed in a flexible manner, sorting it by popularity, relevance in the context of a given problem, or defined score. Common use cases include Wordle and Scrabble solvers.

User will interact with the application using terminal and enter the commands into the terminal line by line while getting output at the same time for the requested commands.

### Interface:

List generation:

- LIST <listname> = LOAD “filename/word database” // load a list of words
- LIST <listname> = COMBINED <listname1> ... <listnameN> // combine lists into one main list
- LIST <listname> = DIFFERENCE <listname1> ... <listnameN> // combine lists into one main list by only items are not same

- LIST <listname> = INTERSECTION <listname1> ... <listnameN> // combine lists into one main list by only items are same
- LIST <listname> =COPY <listname1> // copy a list to another list
- SET\_CURRENT <listname1> ... <listnamen> // if multiple lists are loaded, restrict the search only to the given lists
- ADD <listname> “space separated words” // add collection of words into the given list
- SAVE <list> “filename” // save list to a file

Applying pattern to a list:

- LENGTH = <int> // restrict the word length to <int>, or use \* to discard length filter
- CONTAINS\_ANY “collection of letters” and CONTAINS\_ALL “collection of letters” // organize list based on given letters all in it or some
- NOT\_CONTAINS “collection of letters” // organize list based on given letters are not in the words in the list
- GET “pattern” // organize the list based on pattern ‘\_’ for a character, ‘\*’ for 0 or more character
- PRINT <number> // prints results starting from top until number reached or ALL to print all results
- RESET <list name> // resets the list to its original state
- RESET\_LAST // discard last pattern

Game Specifics:

- WORDLE(“word inputted “, “results of wordle”) // For the results user inputs G(Green), Y(yellow), or B(Black). It returns top 10 possible words in the current list.