Josh Staples
April 26, 2022
Web Application Programming
Integrated Programming Project

The Word-le Finder:

Link: stapj.cis.sc4.edu/WordleFinder/index.html

The goal of this project is to capitalize on a public list of all the words used for the popular game “Wordle,” which has recently grown in popularity from being hosted on the New York Times’ webpage. To capitalize on the list being public, this webpage will allow the user to enter any sequence of guaranteed letters in their word to narrow down the results of the over 12,000 possible words to a few that may work.

My project was originally going to be based around the game Snake, although looking at the list of recommendations one last time, I saw the first one about Crosswords and immediately thought of Wordle. Thus, here we are.

Algorithm:

The algorithm for this project is not too complicated at all, and simply utilizes a clever usage of regular expressions in order to look up words from a separate database.

- When project is first run, use setup.php to create the database and fill in all of the words from the supporting text file (words.txt by default)
- Allow the user to enter up to a 5-letter word, along with any combination of other letters being left out (aside from being completely empty, we don’t want to be displaying 12,000 words now do we…)
- Any empty spaces within the word should be substituted for the wildcard character “_” to act as a substitute for one non-whitespace character.
- Use the words database to look up all matching words using regular expressions.
  Query:
  SELECT * FROM words WHERE word LIKE ‘<regex>’
- Display all results on the screen for the user, allow more words to be tested

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Test Set:

Using PHPMyAdmin, I am able to search through the word database to see what words are possible to get from the database as a result of the regular expression, and that can be used to test various combinations of letters within the program. For an actual test however, I figured I should put it to the test in a real game of Wordle first:

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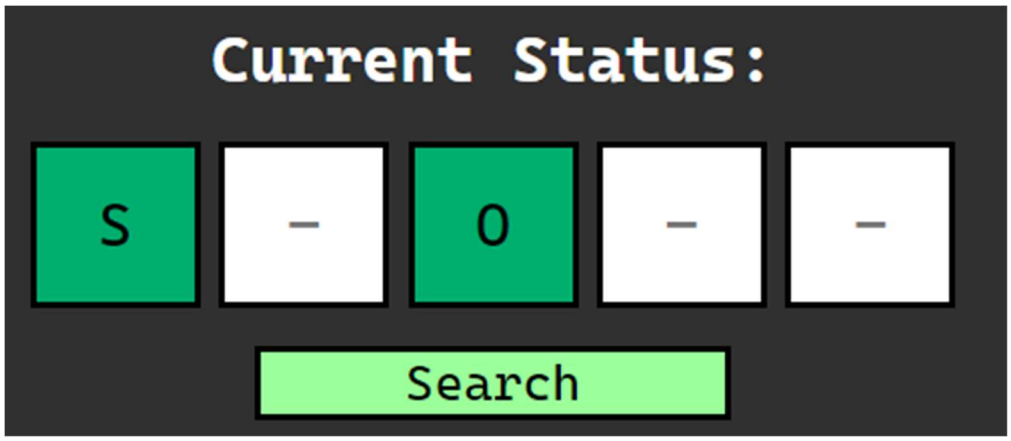
First Run:



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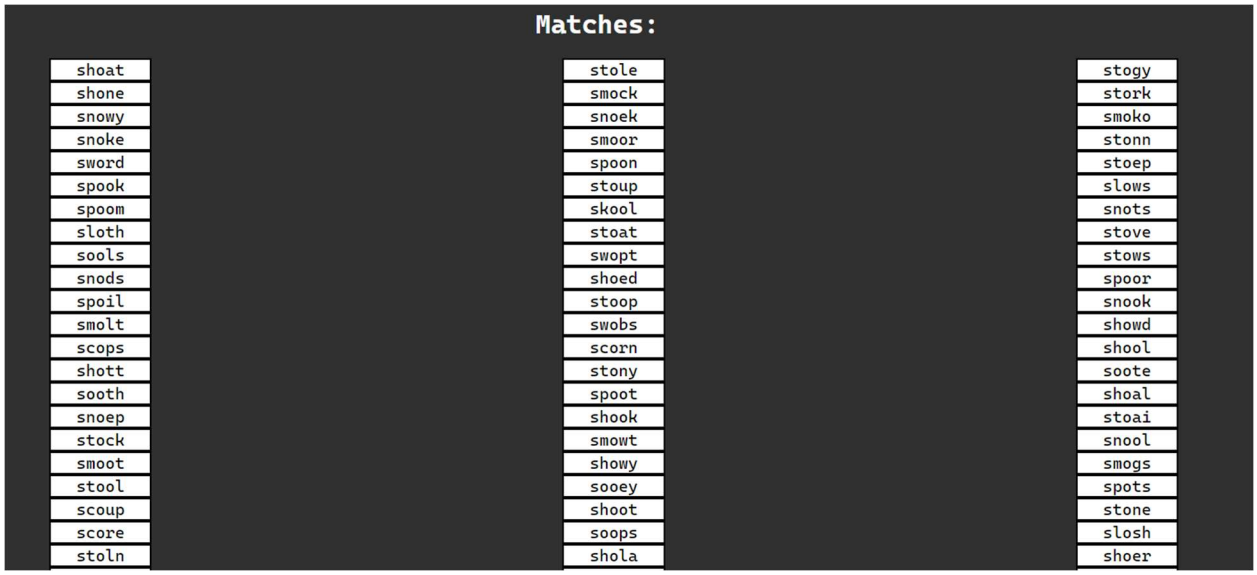
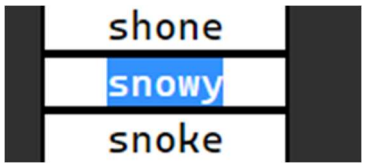
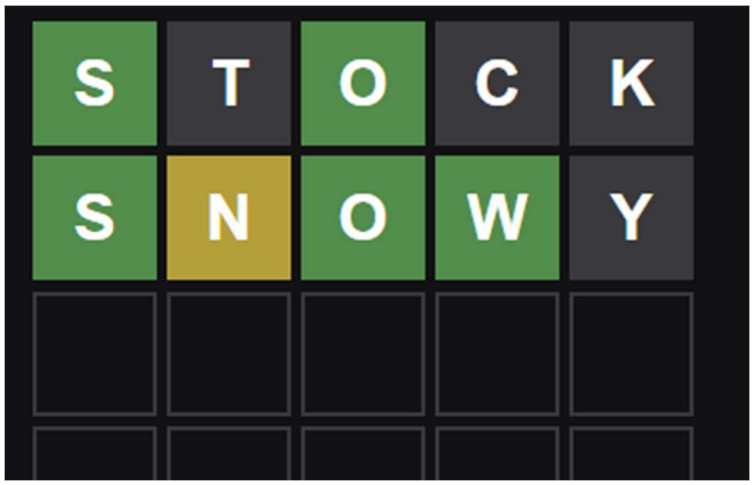


Second Run:





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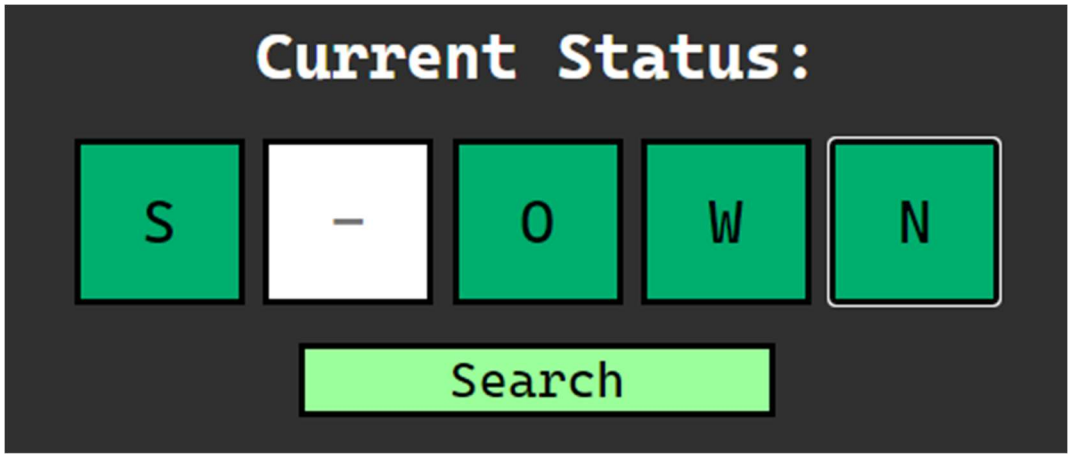
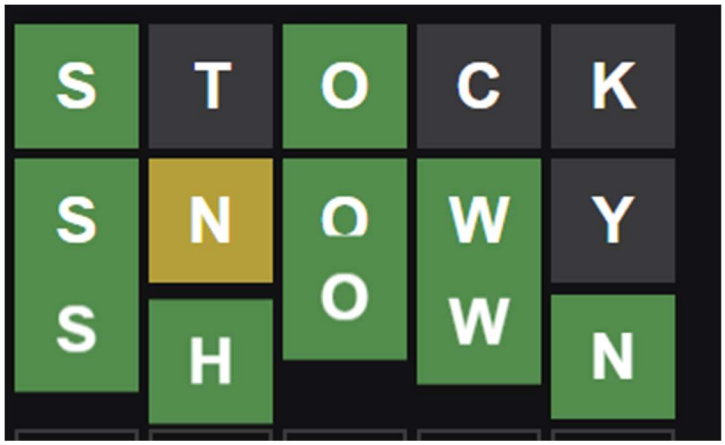


Third Run:



With that aside, it's clear to see that it works for a real game of Wordle, although there are a few other examples that I will use:

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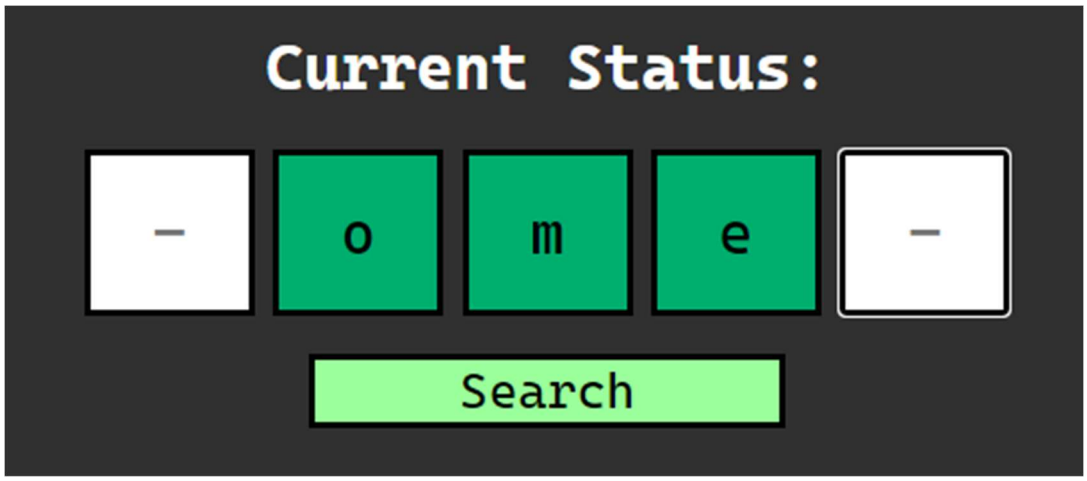
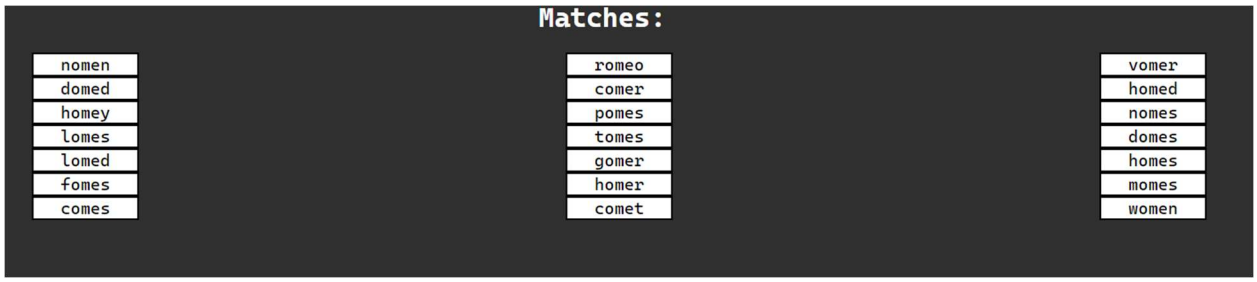
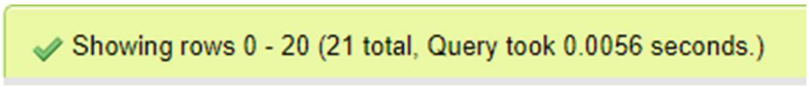
ome:







(21 total results as shown)

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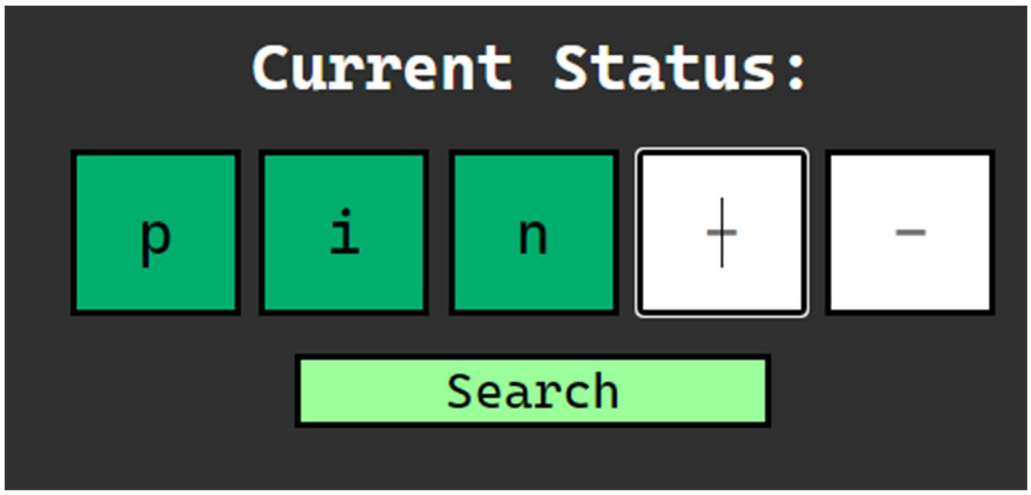
pin__:



(18 total results as shown)

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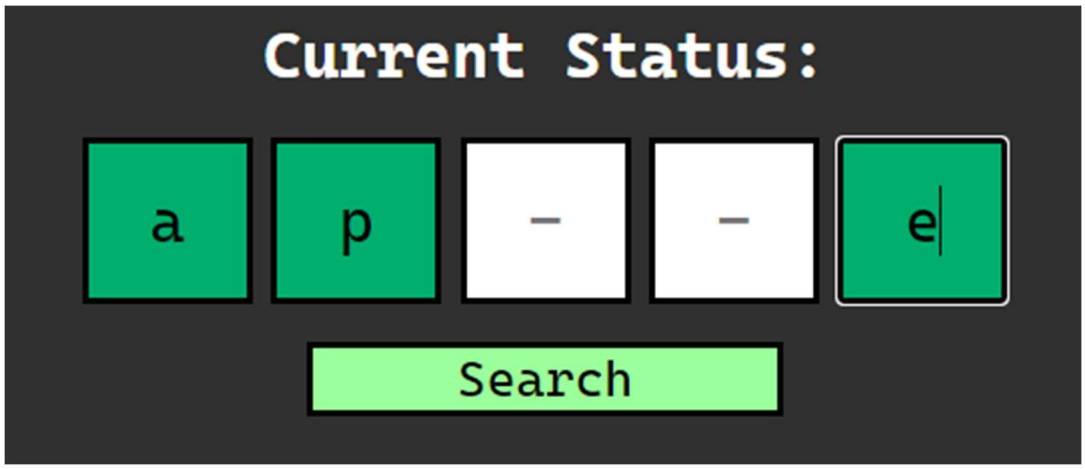
ap__e:



(4 total results as shown)

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Validation:

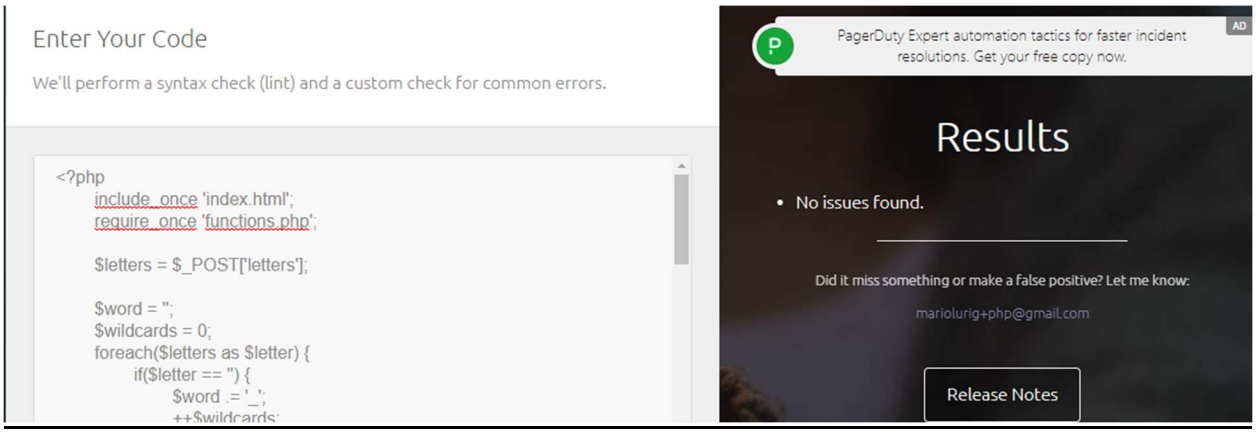
Index.html:

Document checking completed. No errors or warnings to show.

Used the HTML parser.

Total execution time 9 milliseconds.

processWord.php: (I couldn't find a great validator, hope this will suffice)



Styles.css:

W3C CSS Validator results for TextArea (CSS level 3 + SVG)

Congratulations! No Error Found.

This document validates as CSS level 3 + SVG !