# **REPORT – Autocompleter**

Autocompleter is a script to generate closest words to the entered word. Initially, the code looks for the master Trie in the directory - which is a Trie structure for a lot of English words, and generates it if it does not.

In the trie, we look for the closest match to the word entered by the user. It then shows up to 5 closest matches in terms of spelling and length.

We’re not using the boolean value to store if a word ends at a certain point in the Trie and doing it in the dictionary itself so as to facilitate the pickling of the dictionary. (Pickling allows you to serialise - deserialise data. “Pickling” is the process whereby a Python object hierarchy is converted into a byte stream, and “unpickling” is the inverse operation, whereby a byte stream (from a binary file or bytes-like object) is converted back into an object hierarchy.)

The pickle module implements binary protocols for serializing and de-serializing a Python object structure. We’re preferring HIGHEST\_PROTOCOL while pickling since it works better with newer versions of python and it generates a smaller file – so unpickling might be faster.

This code also allows you to add your own elements to the pre-existing trie, which are saved after exiting properly from the code. It makes the runtime faster, and saves a lot of space, since an old file is being used. It might be getting overwritten every time a new set of elements are added, but it’s a minor improvement regardless.

A simple interface has been incorporated using tkinter, wherein a user can hover over and select a word or phrase of their choice. A button is used, so that a user can save the words/phrases that they want to to the trie.

The requirements have been included in the requirements.txt file, and they’re only used to generate the Trie with all the words.