Text Editor in Tkinter: 15-112 Term Project

Problem it solves:

I will implement a text editor which can be used by students (of say 15-112) for programming among other things. It will have syntax highlighting, autocompletion and other helpful tools. Programming will be done in Python using Tkinter graphics library.

It will also be highly customisable since it is written in Python and is open source.

Modules:

I will be using Tkinter for the graphics. The lexing for syntax highlighting will be done with the pygments module.

Challenges:

The project has several algorithmically complex ideas which I will have to implement. For example for calculating autocompletion I will have to use approximate string matching and find the Levenshtein distance efficiently. I am also implementing syntax highlighting with a support for most of the major languages. This is done by doing a lexical analysis of the text. I use the module Pygment to get the tokenised text so that I can apply style rules to the text based on their token. This is a tough problem as I will have to write a way to make sure I am only lexing the minimum required amount of text that is needed so as to improve efficiency. I will also aim to make a real pleasant graphical experience for the users. Good design will be a key aspect for the editor.