# ENGR 102 Programming Practice

Practice Session (Week 4)

In this week, you are going to develop two small applications: (i) a spell checker, and (ii) a file copier with progress bar support.

Spell Checker App: This application will check an input text file for spelling errors as explained below.

Part1 (15 minutes): Firstly, you are going to develop the application's interface for which a screenshot is provided below. At the top, there will be a label which shows the name of application with blue background. Then, there will be two more labels which are followed by Entry objects. These Entry objects will be used to get the paths of text file and database file from the user. Next, there will be a button with label, 'Spell Check', which is followed by a Text widget which will display the text file content with spelling errors highlighted.
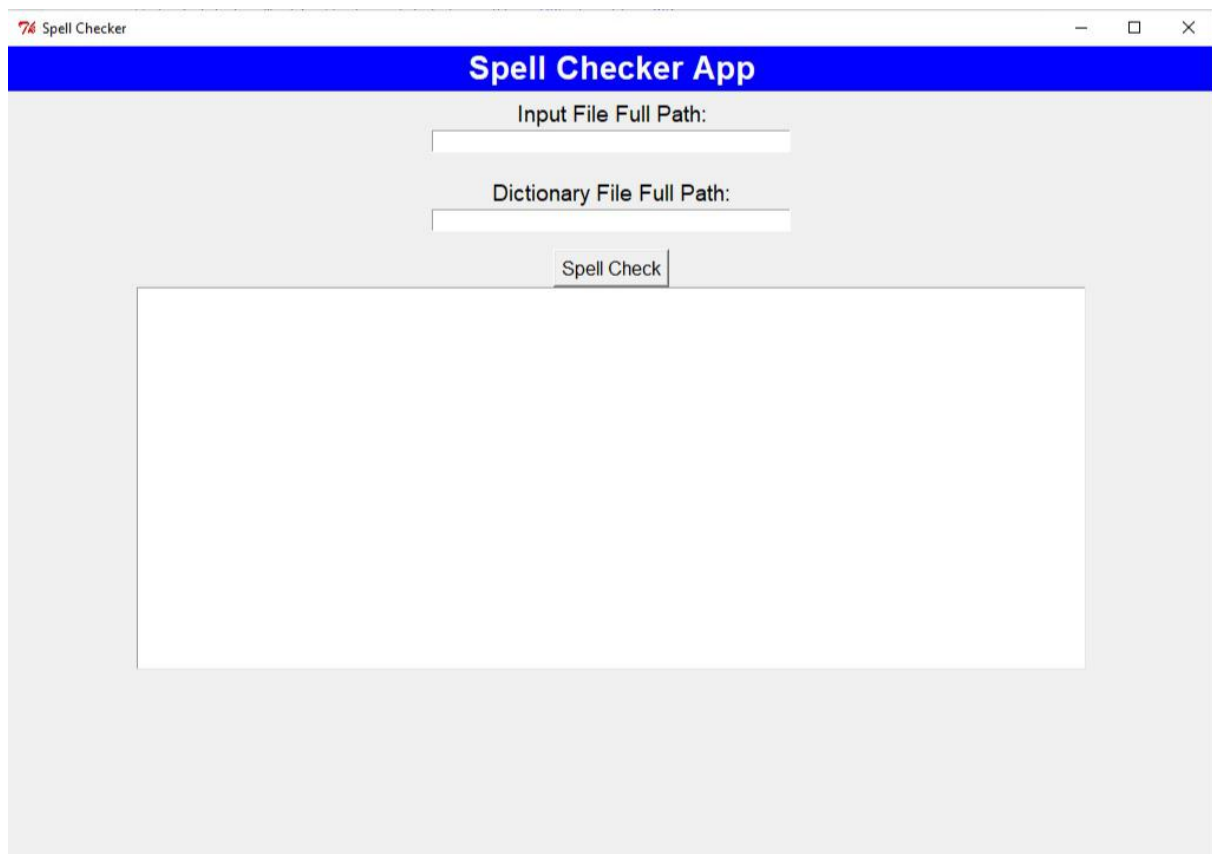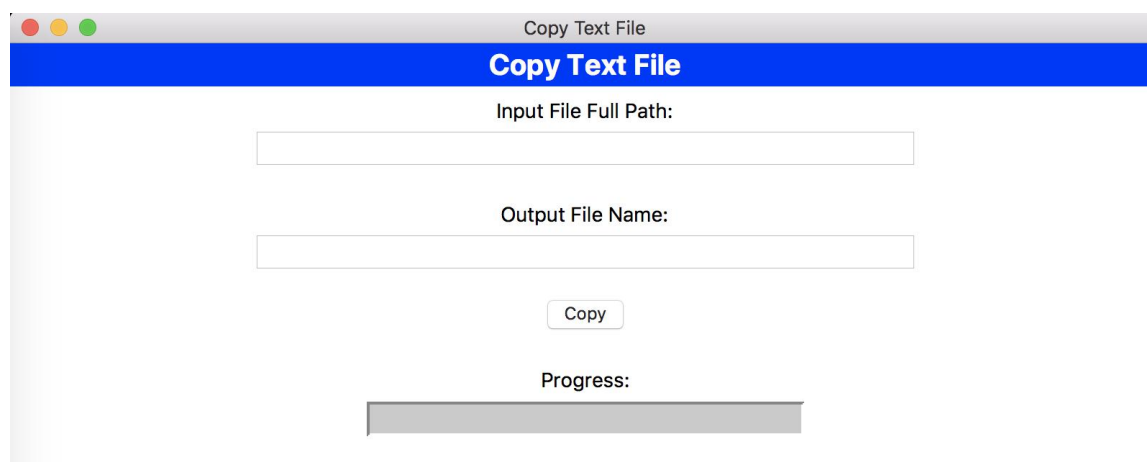

Part2 (30 minutes): In this part, you are going to code the working principles of the application. When spell check button is pressed, application will open the database file. Then, the application will open the text file, and check every word to see whether it is in the database or not. If a word does not exist in the database, the application will highlight the word with yellow background and red foreground by using tags. Otherwise, the word will be shown regularly. The following figure shows how the application works when input text file contains some words with spelling errors.
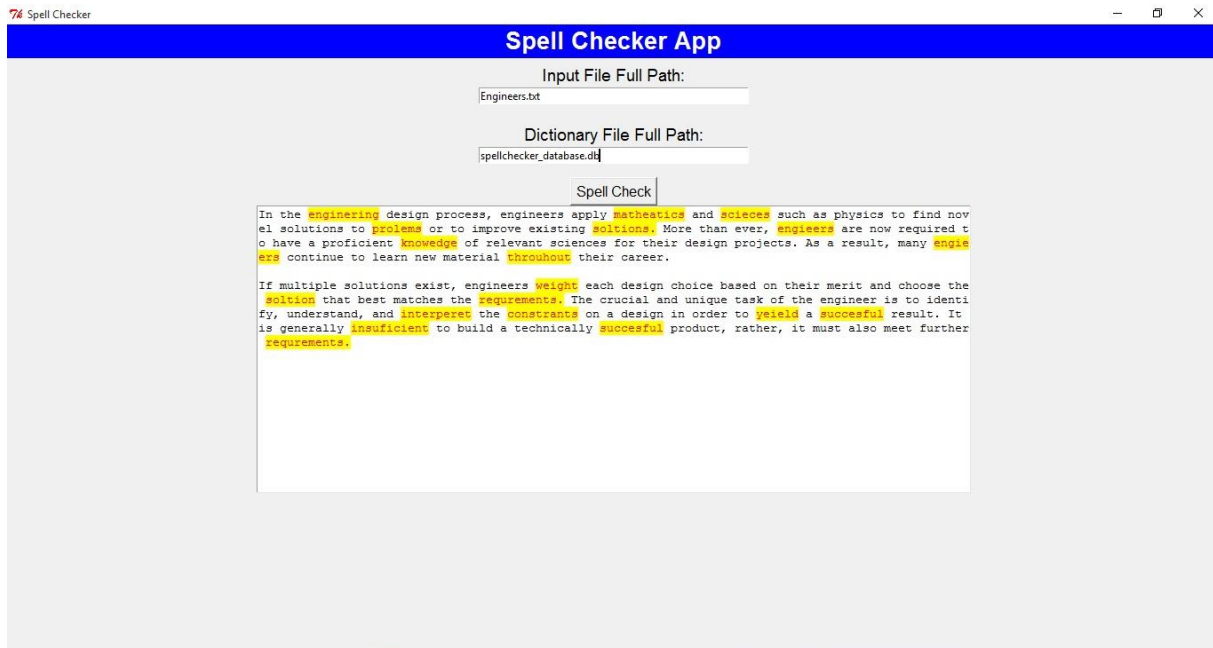
Progress Bar: In this application, you are going to develop an application that will copy an input file into another file, and report its progress of completion with a progress bar.

Part1 (15 minutes): Firstly, you are going to develop application's interface for which a screenshot is provided below. At the top, there will be a label with text "Copy Text File" in blue background. Then, there will be two more labels which are followed by two Entry objects. The first Entry widget will be used to get the full path of a text file for copying. The second Entry widget is for naming the output text file. Next, you will create a button to copy the input file. Then, you should create a Canvas for showing the copying progress and a Label ("Progress:") to report the percentage of completed tasks.

Part2 (30 minutes): In this part, you are going to code the working principles of the application. The user must enter both input file's full path and the output file's name. When Copy button is pressed, the application will start copying the content of input file to the output file 1 kb (1024 bytes) at a time. The percentage of progress can be visualized by redrawing a rectangle with a larger size at the same position in each step. For example, the following screenshot shows 20% of copying has been completed.
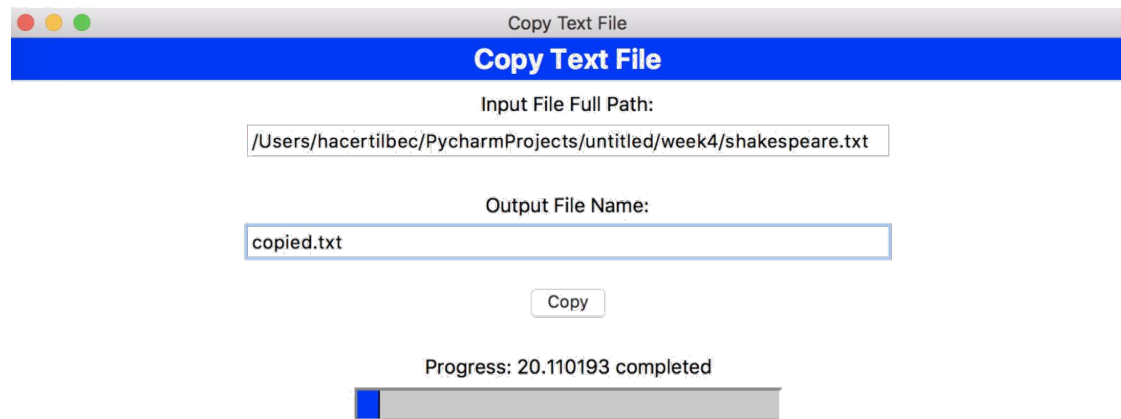
Implementation Notes:

-Check the website to see what can be done with text objects, at the end of the page you'll find an example of using tags to add words in text objects.

https://www.tutorialspoint.com/python/tk_text.htm

- Use *shakespeare.txt* file to test progress bar.

- Input file size may be obtained with os.path.getsize() function.

- You may use get() method of an Entry object to get its text.

- Call update_idletasks() on parent container to get the canvas refreshed at each progress step.

Good luck ☺