

CS2250 Spring 2018 Hauschild

PROGRAMMING ASSIGNMENT 3:

Due date: April 6th, 2018

Points: 100

You have been hired by a supersecret company to do some discrete modification of some text documents by replacing certain words with others.

Task 1:

Prompt the user for a filename. You should prompt them for the filename in total, so if they enter “file.txt” you should read a file called “file.txt”. Do not assume or add an extension.

This file will consist of word pairs, separate by a space, so for example the file might consist of the following lines:

```
cat dog
casino goodfellas
marc mark
nicky tommy
ace jimmy
sam jimmy
```

This will be used to replace all occurrences in another file of the first word on a line with the second. For example, as the movie Casino is an obviously inferior knockoff of Goodfellas, you should replace all occurrences of casino with goodfellas. Note that to make this project more straightforward, we will be using all lowercase letters.

Your code will be using a struct of the form:

```
struct ReplaceMap {
    string original;
    string replacement;
}
```

You should write a function that takes in the name of a file (as a string) and a vector of ReplaceMap by reference. This function should open the file and read the file, putting a pair of words into a ReplaceMap object and then putting that object into the vector. Make sure you have appropriate error checking on file handling. You will not know how large the file could be, so read until end of file.

In your main body you should display this entire vector after the call to this function.

Task 2:

You should now ask the user for 2 filenames, a target and a destination file. In the target file is a plaintext document that we want to modify by replacing some words. The overall task will be for you replace some words in the target file and save the modified version in the destination file. So for example, if called with “file1.txt” and “file2.txt”, with file1.txt being

```
casino is a really good movie and  
joe pesci was excellent as nicky
```

it would return:

```
goodfellas is a really good movie and  
joe pesci was excellent as tommy
```

To do this task, you should read the target file line by line into a string variable. Then, element by element in your vector, search for any instances of `original` in that string and replace it with the replacement. Note that a word could occur more than once in a line. Once that is done, write that line to the destination file. Repeat this process until you have replaced all of the original words with their replacements in the file.

Finally, close the destination file. Then, open the destination file for reading and output it line by line to the screen.

Note that as you are working with raw text files in this project, be careful about using some rich text editor to create your word pairs file to test on. I will be using my own file to test, which is different from the one I used as an example here.

Submit through canvas by attaching your source file. Do not copy/paste the text into the submission box. Your source file should have no spaces in it.