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Reflection Report

The program that I decided to code is a "Word Scrambler". The code wordscrambler.adb first takes in a text file then scrambles the words from the text file.

The first function getFilename() is a function that prompts the user for a file name the function loops till they file is available. When they put the correct file, the file will then be opened and returned to be used in the other functions. I also created a function that checks if the file exists and call it in the getfilename function.This was the first thing I did for the assignment was to be able to finish this function. I decided to design this first because it would have been hard to test the other functions if it was unable to take in a file. The way I designed this function was by first doing the logic on paper and understanding I am going to loop through every single time a file was incorrect. Once that was done and figured out I coded it in Ada.

The second and third functions I did were isWord() randomInt() I decided to do these functions because I felt that they were the easiest to develop but also the other two functions scrambleWord() and processText() need those functions to operate. The isWord() function determines if the body of the text is a word or not I did that by looping through sentences and seeing if there are characters or numbers. The function randomInt() is a function that generates a random integer. This was very simple to do since there is a function that is embedded in Ada that does that. The way I designed the two functions were again first on paper to get the algorithm done but to also understand how these functions will be implmented in processtext() and scrambleWord().

The Fourth function I did was scrambleWord() in my opinion this was the toughest function to do because the logic was tough to implement. It would take the length of the word and then call the randomInt function and then scramble the letters of a and b which will then result in the scrambled word. This function was done fourth because it is needed to be called in processText(). The way I designed this was on paper which was to draw out the logic on how to exactly manipulate the string into scrambling the word.

The Fifth and final function is processText() this just makes sure that all the words should be scrambled if the word length is greater than three. If the word length is greater than three then you call scramble word and scramble the words of the text file. I designed this by drawing the algorithm on a piece of paper and figuring out the steps to get this function working.

I feel that overall Ada was well suited for the problem because Ada has a lot of libraries and functions already implemented in they're program like random number for example. Also, a lot of the structure and syntax is similar to C so it wasn't too hard to pick up and understand. The particular structure did make it a good choice because it wasn't hard for function calls and returning variables. Lastly, the benefits I used were things like the random number generator the boolean and also manipulating strings was pretty simple in my opinion. The limitations overall, in my opinion, was the structure and error handling it was very hard for me to pinpoint what was wrong with the error and how it could be fixed. I also don't like how the structure it was hard for me to grasp but coding in Ada helps me improve and understand the structure.

Errors I ran into/ explination of unfinsihed code:

As you can see my code doesn't work completely because I don't have two functions which are very important which are scrambleWord and processText. I tried for three days straight to do this an for some reason I kept running into the same error but my randomInt isWord, and getFilename all work. For some reason, I couldn't put it together