Object Oriented Programming CA1

# Program

My program has a main body and 4 functions. The body consists of the main menu which prompts the user for a number input (1-3).

Input 1:

If the user inputs a ‘1’ the program will go to the create\_dict () function. This function will go through all the lines in the text file and will change the case to lower case. It will then check for the line ‘<new document>’ and increase a counter when it finds it. This counter is when a new document has started. Next it will remove all the special characters such as: (>!#£$%\*) and separate the lines by words. It will then check each word in a line and send it to a function called create().

The create function will create a list for the word and it will assign the counter number to the word. Example would be (The: 1, 2, 3) this means that the word ‘The’ appears in document 1, 2 and 3.

After going through create() it will return the dictionary to create\_dict() which will return the dictionary back to main.

Next it will go to the word\_search() function. This function creates two sets and prompts the user for one or two words. Once the user inputs a word, the function will go through the dictionary created in create\_dict() and print out the documents numbers that are assigned to the word, if the user inputs two words the function will search for the first word and put the document numbers into the first set and then search for the second word and put the numbers into the second set, it will then look at both sets and put the document numbers that appear in both sets into a new set and print that to the user. Example set1 = {1, 3, 4), set2 = {1, 2, 4}, set3 = {1, 4}. Set3 is what the user will see.

Input 2:

If the user inputs ‘2’ the program will go to the open\_doc() function. This function will read the text file and separate it by ‘<NEW DOCUMENT>’ and put it into a list. It will then prompt the user for a document number and will print out the document text that is associated to the position in the list

If the user inputs anything besides a number, it will print out an error message and return the user to the main menu.

Input 3:

If the user inputs ‘3’ the program will quit.

Input else:

The program will print out an error message if the user inputs anything beside 1, 2 or 3 it will then return to the main menu.

# Difficulties

For difficulties there were many problems getting the word\_search function to work.

My function has a couple of errors that I could not figure out how to fix for example, my condition to search for two words requires two values and a space, example ‘stock<space>prices’, The condition to search for one word is just a value and no space. However, if you search ‘stock<space>’ the program has an error as the function does not think the user is searching one word but two and requires two values. The function itself is quite messy and could potentially be optimised or changed to a more efficient method.

The create\_dict function could also be optimised as it too is quite messy and could be solved easier.

Other than that there were no difficulties in creating this program.