LAB 1 Part 1 _ Rohit Singh

Question 1 :

In this question I have read each line of the sentence and stored all the lines individually. A list is generated to store all the lines, <list>.remove() is used to remove the '\n' character from the list. After this I am reversing the words in the list and joining individual words in the reversed list along with a space, to make it look like a sentence. After the sentence is complete, I am adding a '\n' character to mark it as an end of line. The reason for removing '\n' in the starting position is because, upon reversing, the '\n' character was taking a space by itself, and hence it was not desirable. We are reading the input from the text file and are writing the generated string in a text file with the desired name, all the input and output files will be created in the same directory, hence the exact location is not provided in the script.

Question 2:

In this question, I have read each line and then iterated to each word in the sentence. As in the previous question we did store the lines in a list after removing the '\n' character and then searched each word. This question has asked us to reach each word's length and then compare the length with other words in the text file and then conclude the information, with all the count of the words having the same word length. I observed that in the input text, there were some words which were ending with "?", "," and ".". This happened because we could not split it using a space in the initial sorting of words. So Just to make sure that "Shakespeare?" and "Shakespeare" are both considered as same words, I checked if the word was ending with the special character stated above, if that was the case, I reduced the word length by 1, and if that was not the case, I kept the word length as it is. After this screening process, I captured all the lengths in a list using append(). Once all the lengths were formulated in the list, I gathered the unique elements of the list using set(<list>) and made a dictionary having index and corresponding count. After creating the dictionary, I am iterating through each key in the dictionary, and printing the corresponding count value. As we have been asked to provide left alignment, so I have used an if condition to check if the key value is 9 or less than 9, for values 10 and more, I have reduced a space to make them aligned. I have written the string corresponding in every for loop.

Question 3:

Question 3, asks us to iterate over every word in the txt file and perform encoding, as my last two digits of my USC id is "41", I generated the desired output encoded file, for spaces and line breaks, I copied the same to the new file as I required a space and a line break. Over here I have used the ord() function which converts the character into its equivalent ascii character, after this I am using str() method to convert the integer values to string.

Final Function Call:

I have created individual functions for all 3 questions and called all three function, upon executing the script, i.e when __name__==__main__ : All the three functions will be called.The input text file – 'text_in' and the python script should be in the same folder.