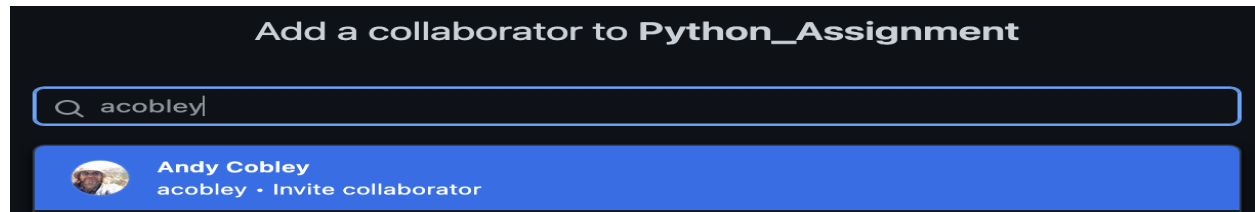


I have granted you(acobley) repo access, containing the input data, the code and the output.



Design

1. Input/ Cleaning -> *accepts filepath from user*

- Clean each word: Accept input path from user, eparate compounded names (having special characters), remove special characters, some spaces, new lines, and capitalize words.
- Store the result as a list, `cleaned_names`.

2. `nameAbbreviator()`: accepts a **name** and returns the **abbreviation** and **score**. It runs through all words in a name, checks letters with least score and returns the least-score abbreviation in order.

It depends on two functions:

- `word_least_letter_checker()`**: accepts a word, and returns the **letter with least score** and the **score** of the letter
- `least_score_checker_updated()`**: It depends on `word_least_letter_checker()`. It accepts a name and returns **two dictionaries**
 - `least_letter_tracker`: Containing the each word and least letter (ignoring first letter) e.g for WONDER MAN {'WONDER': 'R', 'MAN': 'N'}
 - `least_score_tracker`: Containing the each word and least letter score (ignoring first letter) e.g for WONDER MAN {'WONDER': 5, 'MAN': 5}

3. Bringing it all Together:

- Call `nameAbbreviator()` function on each name in the `cleaned_name` list. E.g [Alder , Crab Apple, Common Ash, Silver Birch]
- `nameAbbreviator()` runs through combinations and calls the `least_score_checker_updated()` and returns the abbreviation and score for each.
- Store the abbreviations in a list. E.g [ADR, CBA, CNA, SRB]
- Zip the abbreviation list to the original(uncleaned) names and create a dictionary

```
name_and_abb_dic = dict(zip(names, abbreviatons_only))
```


{'Alder': 'ADR', 'Crab Apple': 'CBA', 'Common Ash': 'CNA', 'Silver Birch': 'SRB'}
- For easy writing to a .txt file as new line items, iterate through the key & value and store in a list
['Alder', 'ADR', 'Crab Apple', 'CBA', 'Common Ash', 'CNA', 'Silver Birch', 'SRB']

4. Output -> *output/akwiwu-uzoma_trees_abbrevs.txt*

- Create the output filename as surname + '_' + input_filename + '_abbrevs.txt'
- Write each item of the list as a newline into a .txt file and store in the **output folder**

Evidence of Testing

Provided values.txt= {'Q': 1, 'Z': 1, 'J': 3, 'X': 3, 'K': 6, 'F': 7, 'H': 7, 'V': 7, 'W': 7, 'Y': 7, 'B': 8, 'C': 8, 'M': 8, 'P': 8, 'D': 9, 'G': 9, 'L': 15, 'N': 15, 'R': 15, 'S': 15, 'T': 15, 'O': 20, 'U': 20, 'A': 25, 'I': 25, 'E': 35}

Input File: trees.txt file (with some additional complex words to test performance)

https://github.com/Ebuk-a/Python_Assignment/blob/main/resources/trees.txt

Main Program file:

https://github.com/Ebuk-a/Python_Assignment/blob/main/akwiwu-uzoma_word_abbreviator.py

Output File: file can be found on github here:

https://github.com/Ebuk-a/Python_Assignment/blob/main/akwiwu-uzoma_trees_abbrevs.txt

Testing Calculations and Results (on spippet of data)

Word	Expected Abbreviation	Resulting Abbreviation	Individual Element & Scores	Total Score (Least Score)
Alder	ADR	ADR	A: first_letter(0) D: value(9) + index(2) R: last_letter(5)	16
Crab Apple	CBA	CBA	C: first_letter(0) B: last(5) A: first_letter(0)	5
Common Ash	CNA	CNA	C: first_letter(0) N: last_letter(5) A: first_letter(0)	5
Smooth-leaved Elm	SLE	SLE	S: first_letter(0) L: first_letter(0) E: first_letter(0)	0
He	''	''	Not Applicable	Not Applicable

Snippets:

Python_Assignment				
Name	Date Modified	Size	Kind	
Akwiwu-Uzoma_Design Report Python.pdf	Today, 09:16	275 KB	PDF Document	
akwiwu-uzoma_word_abbreviator.py	Today, 09:24	3 KB	Python script	
output	Today, 09:24	--	Folder	
akwiwu-uzoma_trees_abbrevs.txt	Today, 09:24	984 bytes	Plain Text	
resources	Yesterday, 14:34	--	Folder	
assignment2021.pdf	13 Dec 2022, 22:31	96 KB	PDF Document	
trees.txt	30 Nov 2022, 16:47	801 bytes	Plain Text	
values.txt	13 Dec 2022, 22:32	154 bytes	Plain Text	
utils	Yesterday, 18:25	--	Folder	
__pycache__	Yesterday, 18:43	--	Folder	
helpers.py	Yesterday, 18:43	12 KB	Python script	

```
akwiwu-uzoma_trees_abbrevs.txt
Grey Willow
GYW
Purple Willow
PWW
Common Osier
CNO
Eared Willow
EDW
Guelder Rose
GRR
Wayfaring tree
WGT
Common Privet
CNP
Plot's Elm
PSE
Wayfaring tree home below
WTH
As
He
```