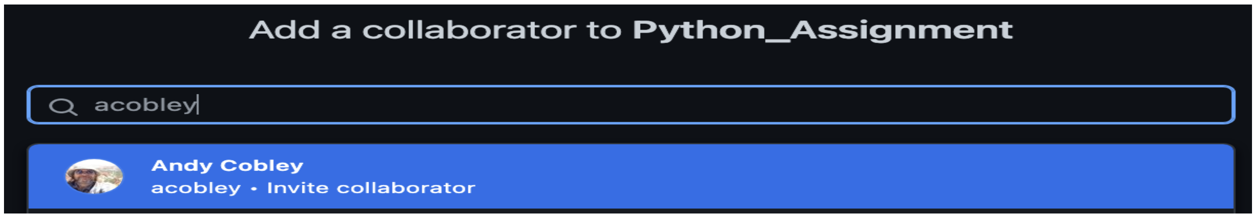
https://github.com/Ebuk-a/Python_Assignment
I have granted you(acobley) repo access, containing the input data, the code and the output.


Add a collaborator to Python_Assignment

acobley

Andy Cobley
acobley • Invite collaborator

## Design

1. **Input/ Cleaning -> *accepts filepath from user***
    a. Clean each word: Accept input path from user, eparate compounded names (having special characters), remove special characters, some spaces, new lines, and capitalize words.
    b. 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:
    a. **word_least_letter checker()**: accepts a word, and returns the **letter with least score** and the **score** of the letter

    b. **least_score_checker_updated()**: It depends on word_least_letter checker().
       It accepts a name and returns **two dictionaries**
        i. least_letter_tracker: Containing the each word and least letter (ignoring first letter) e.g for WONDER MAN {'WONDER': 'R', 'MAN': 'N'}

        ii. 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:**
    a. Call nameAbbreviator() function on each name in the cleaned_name list. E.g [Alder , Crab Apple, Common Ash, Silver Birch]

    b. nameAbbreviator() runs through combinations and calls the least_score_checker_updated() and returns the abbreviation and score for each.

    c. Store the abbreviations in a list. E.g [ADR, CBA, CNA, SRB]

    d. 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'}

    e. 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***
    a. Create the output filename as surname +'_'+ input_filename + '_abbrevs.txt'
    b. 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

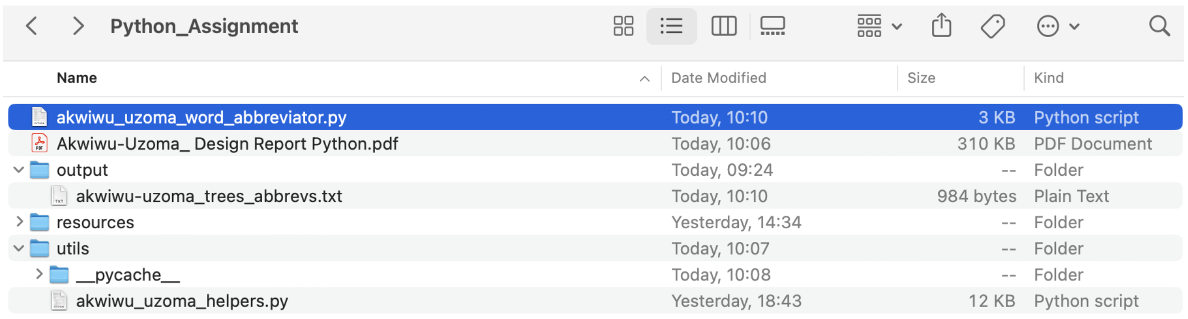
**Main Program file:**
https://github.com/Ebuk-a/Python_Assignment/blob/main/akwiwu-uzoma_word_abbreviator.py

**Output File:** file can be found on github here:
https://github.com/Ebuk-a/Python_Assignment/blob/main/output/akwiwu-uzoma_trees_abbrevs.txt

### Testing Calculations and Results (on spippet of data)

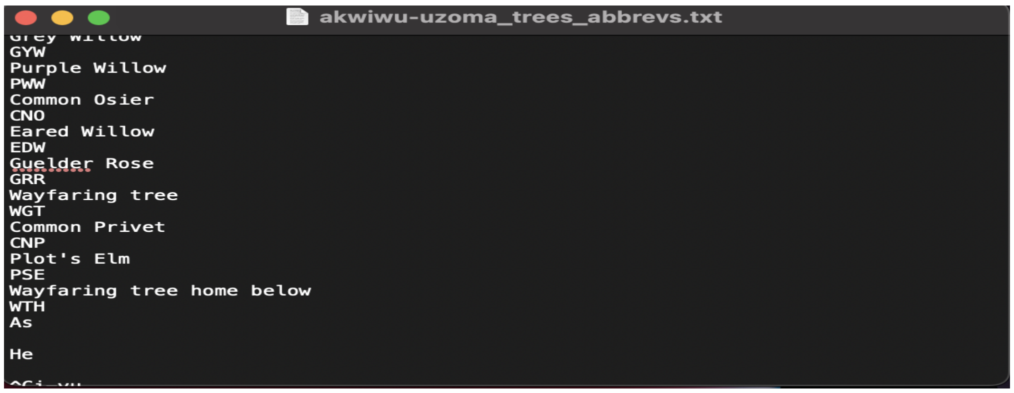
| Word | Expected Abbreviation | Resulting Abbrevation | Individual Element & Scores | Total Score (Least Score) |
|---|---|---|---|---|
| Alder | ADR | ADR | A:first_letter(0)<br>D: value(9) + index(2)<br>R: last_letter(5) | 16 |
| Crab Apple | CBA | CBA | C:first_letter(0)<br>B: last(5)<br>A: first_letter(0)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

### Snippets:



Python_Assignment

| Name | Date Modified | Size | Kind |
|---|---|---|---|
| akwiwu_uzoma_word_abbreviator.py | Today, 10:10 | 3 KB | Python script |
| Akwiwu-Uzoma_ Design Report Python.pdf | Today, 10:06 | 310 KB | PDF Document |
| output | Today, 09:24 | -- | Folder |
| akwiwu-uzoma_trees_abbrevs.txt | Today, 10:10 | 984 bytes | Plain Text |
| resources | Yesterday, 14:34 | -- | Folder |
| utils | Today, 10:07 | -- | Folder |
| __pycache__ | Today, 10:08 | -- | Folder |
| akwiwu_uzoma_helpers.py | Yesterday, 18:43 | 12 KB | Python script |



akwiwu-uzoma_trees_abbrevs.txt

```
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
```