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CPSC 535
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CPSC 535 (Project 2)

Pseudo Code:

Choose root name based on alphabet from the synonym list
- Create a hash table and add pairs into the hash table from the synonyms list (SYN)
  + Add pairs as new tuples if they are not in the hash table
  + Insert new keywords into a current tuple if its key is existing in hash table
  + Merge tuples having the same key and remove duplicates

To calculate the total frequency per related words list:
- Store the Word Frequencies (WF) into a dictionary for easy access based on "key" : "value" pairs. Remove leading and trailing white space.
- For(each list in our new Hash Table):

    For(each word in list):

        Access dictionary WF to find corresponding frequency count

        Add the frequency for this word to the total frequency of this list

    Store the total frequency of the list into output list (CF)

Description:

Each of the test-case lists WF and SYN hardcoded into the program. Comment/uncomment variables WF and SYN at the top of the code to run each test case.

```
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Screenshots of Output:

```
Word Frequencies: WF = [['foot', 5], ['feet', 12], ['day', 3], ['days', 8], ['fear', 2], ['scared', 1], ['long', 12],
['large', 5], ['big', 5], ['was', 4], ['is', 4], ['are', 15]] of size 12
Synonyms: SYN = [['foot', 'feet'], ['day', 'days'], ['fear', 'scared'], ['long', 'big'], ['big', 'large'], ['is', 'are
'], ['is', 'was']] of size 7
CF = {'feet': 17, 'day': 11, 'fear': 3, 'big': 22, 'are': 23} of size 5
PS C:\Users\Brian>
```

```
Word Frequencies: WF = [['tons of', 2], ['large number of ', 12], ['mystical', 13], ['magical', 28], ['magic', 5], ['u
nexplained', 11], ['huge', 2], ['large', 51], ['horses', 25], ['horse', 24], ['large mammal', 24], ['herbivore', 5]] o
f size 12
Synonyms: SYN = [['herbivore', 'horses'], ['horse', 'large mammal'], ['horses', 'large mammal'], ['large number of', '
huge'], ['tons of', 'large'], ['huge', 'large'], ['mystical', 'magical'], ['magical', 'unexplained'], ['magic', 'magic
al']] of size 9
CF = {'herbivore': 78, 'huge': 67, 'magic': 57} of size 3
PS C:\Users\Brian>
```

```
Word Frequencies: WF = [['tons of', 2], ['large number of ', 12], ['mystical', 13], ['magical', 28], ['magic', 5], ['u
nexplained', 11], ['huge', 2], ['large', 51], ['horses', 25], ['horse', 24], ['large mammal', 24], ['herbivore', 5], [
'large number of', 12]] of size 13
Synonyms: SYN = [['herbivore', 'horses'], ['horse', 'large mammal'], ['horses', 'large mammal'], ['large number of', '
huge'], ['tons of', 'large'], ['huge', 'large'], ['mystical', 'magical'], ['magical', 'unexplained'], ['magic', 'magic
al'], ['horse', 'large mammal']] of size 10
CF = {'herbivore': 78, 'huge': 67, 'magic': 57} of size 3
PS C:\Users\Brian>
```

```
Word Frequencies: WF = [['white', 12], ['sun yellow', 8], ['sun yellow ', 8], ['blood red', 17], ['pearl', 2], ['green
', 15], ['red', 1], ['yellow', 5], ['bone white', 20], ['powder', 60], ['cream', 7]] of size 11
Synonyms: SYN = [['white', 'pearl'], ['pearl', 'bone white'], ['red', 'blood red'], ['powder', 'cream'], ['cream', 'bo
ne white'], ['yellow', 'sun yellow']] of size 6
CF = {'bone white': 101, 'blood red': 18, 'sun yellow': 13} of size 3
PS C:\Users\Brian>
```