[CS 11 25.1] Lab 4c – Poetic License

Cheatsheet is available here: https://oj.dcs.upd.edu.ph/cs11cheatsheet/

Problem Statement

You have just finished writing your poem. However, you're not quite ready to present it yet to your clubmates, because you think it's not poetic enough!

To make it more poetic, you decide to replace some of the words in it with synonyms taken from a thesaurus. (You don't even know what some of these words mean—but hey, whatever makes you sound smart, right?)

Given your poem, represented as a space-separated string of words, as well as a list of pairs of words that are considered synonyms, please replace each word with its *longest* synonym from the list. If there are multiple longest synonyms, use the word that comes first alphabetically.

We assume that every word is a synonym of itself—this fact doesn't need to be laid out in the given synonym pairs. However, we don't consider synonymy to be transitive—that is, even if word x is a synonym of word y, and word y is a synonym of word z, we don't necessarily assume that word x is a synonym of word z.

Task Details

Your task is to implement a function called `make_poetic`. The function takes two arguments:

- the first is a `str` denoting the poem.
- the second is a `tuple` of n pairs denoting the synonym pairs.

The function must return a `str` denoting the improved version of the poem.

Restrictions

(See 4a for more restrictions)

For this problem:

- Loops and lists are allowed.
- Up to 6 function definitions are allowed.
- Recursion is **disallowed**. (The recursion limit has been greatly reduced.)
- Sets and dictionaries are allowed.
- Generators and comprehensions are allowed.
- The source code limit is $3{,}000$.

Example Calls

Example 1 Function Call

```
make_poetic("i think that i shall never see a poem as lovely
a tree", (
    ('think', 'ruminate'), ('vista', 'view'), ('think',
'conjecture'), ('hypothesize', 'conjecture'),
    ('think', 'guess'), ('wealth', 'cornucopia'), ('panorama',
'scenery'), ('theorize', 'conjecture'),
    ('suppose', 'think'), ('feel', 'think'), ('lovely',
'mesmerizing'), ('think', 'suspect'),
    ('scenery', 'landscape'), ('guess', 'conjecture'), ('tree',
'willow'), ('glimpse', 'see'),
    ('poem', 'ode'), ('will', 'intent'), ('lovely',
'enchanting'), ('think', 'doubt'), ('oak', 'tree'),
    ('beautiful', 'lovely'), ('lovely', 'bewitching'), ('see',
'view'), ('doubt', 'question'),
    ('topography', 'scenery'), ('think', 'muse'),
('surroundings', 'scenery'), ('see', 'discern'),
    ('think', 'reckon'), ('lovely', 'picturesque'), ('observe',
'see'), ('think', 'ponder'),
    ('discern', 'distinguish'), ('think', 'surmise'), ('will',
'shall'), ('suspect', 'defendant'),
    ('will', 'resolve'), ('believe', 'think'), ('view',
'scenery'), ('pulchritudinous', 'lovely'),
    ('suspect', 'theorize'), ('believe', 'trust'), ('see',
'notice'), ('sea', 'ocean'),
))
```

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Example 1 Return Value

```
"i conjecture that i shall never discern a poem as
pulchritudinous as a willow"
```

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Constraints

- The function `make_poetic` will be called at most $50{,}000$ times.
- The sum of n across all inputs will be will be at most $120{,}000$.
- The total number of words in the poems across all inputs will be will be at most $120{,}000$.
- $0 \leq n \leq 120{,}000$.
- Each poem will have at most $120{,}000$ words separated by single spaces.
- Each poem doesn't have leading or trailing spaces.
- Each word is a nonempty string of between 1 and 15 lowercase letters.

Scoring

Note: New tests may be added and all submissions may be rejudged at a later time. (All future tests will satisfy the constraints.)

- You get 100 🔴 points if you solve all test cases where:
  - $n \leq 50$
  - Each poem will have at most 50 words.
  - the sum of all n is ≤ 500.
  - The total number of words in the poems across all inputs will be will be at most 500.
- You get 50 🔴 points if you solve all test cases where:
  - $n \leq 4{,}000$
  - Each poem will have at most $4{,}000$ words.
  - the sum of all n is $\leq 8{,}000$.
  - The total number of words in the poems across all inputs will be will be at most $8{,}000$.
- You get 25 🔴 points if you solve all test cases.

Submit solution [CS 11 25.1] Lab Exercise 4

My submissions

Points: 175 (partial)
Time limit: 4.0s
Memory limit: 1G

Problem type

Allowed languages
py3

Clarifications

Report an issue

No clarifications have been made at this time.