[CS 11 25.1] Lab 5e – Touching Grass

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

Problem Statement

You own a lawn that is n cells long. Some of these cells contain grass, indicated by a `x` character. All other cells are indicated by a `.`.

We define a *strip* of this lawn as a nonempty sequence of consecutive cells.

How many strips in this lawn contain exactly three cells of grass?

Task Details

Your task is to implement a function named `grass_triplets`, which should have the following *signature*:

```
def grass_triplets(lawn):
```

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The above says that it has one argument `lawn`, which is a length-n string (`str`) consisting of `x` and `.` characters.

The function must return an integer (`int`) denoting the number of strips that contain exactly three grass cells.

Restrictions

- The following symbols are now allowed: `iter`, `next`
- The following imports are allowed:
  - `islice` and `count` from `itertools`.
- Loops are allowed.
- Generators and comprehensions are allowed.
- Recursion is allowed.
- Your source code must have at most 900 bytes.

Examples

Example 1 Function Call

```
grass_triplets("xx...xx")
```

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Example 1 Return Value

```
2
```

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Constraints

- The function `grass_triplets` will be called at most $70{,}000$ times.
- $0 \leq n \leq 350{,}000$
- The sum of n across all calls to `grass_triplets` will be $\leq 350{,}000$.
- The lawn only contains either `x` or `.` characters.

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 60 ❤️ points if you solve all test cases where:
  - $n \leq 50$
  - The sum of n across all calls to `grass_triplets` will be ≤ 800.
- You get 60 🔴 points if you solve all test cases where:
  - $n \leq 400$
  - The sum of n across all calls to `grass_triplets` will be ≤ 800.
- You get 60 🔴 points if you solve all test cases where:
  - $n \leq 6{,}000$
  - The sum of n across all calls to `grass_triplets` will be $\leq 12{,}000$.
- You get 50 💔 points if you solve all test cases.

Sub[illegible] solution

[CS 11 25.1] Lab Exercise 5

My submissions

Points: 230 (partial)
Time limit: 7.0s
Memory limit: 2G

Problem type

Allowed languages
py3

Clarifications

Report an issue

No clarifications have been made at this time.