[CS 11] Prac 3h – School Sections

oj.dcs.upd.edu.ph/problem/cs11prac3h

Submit solution
My submissions
Points: 150 (partial)

Time limit: 4.0s

Memory limit: 1G

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Problem type

Allowed languages

~~NONE~~, py3

Problem Statement

The school year has just begun!

The current batch consists of several students, each with a distinct student number. The students will be distributed into ss sections. The sections are numbered 0 to s−1$s-1$.

However, the administrators were lazy in distributing the students into sections! They used the following rule:

- The section of a student is the remainder when their student number is divided by ss.

As a result, the distribution of the students is uneven; some sections got too many students, some got too few, and some were even empty!

How many sections are empty?

Task Details

Your task is to implement a function called `empty_sections`. This function has two parameters `s` and `student_numbers`:

- `s` is an `int`, the number of sections.
- `student_numbers` is a `tuple` of `int`s representing the student numbers of the batch.

The function must return an `int` denoting the number of empty sections.

Restrictions

For this problem:

- Recursion is **disallowed**.
- Additional functions are **disallowed**.
- Comprehensions are allowed.
- The `range`, `min`, `max`, and `sum` symbols are allowed.
- The source code limit is 250250.

Example Calls

Example 1 Function Call

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```
empty_sections(8, (
    200062361, 200000263, 200092785, 200000916, 200071571,
    200089503, 200035712, 200015911, 200070711, 200061120,
    200020828, 200098139, 200056057, 200075391, 200016588,
    200005853, 200090523, 200015692, 200006517, 200066676,
)),
```

Example 1 Return Value

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```
2
```

Constraints

- The function `empty_sections` will be called at most 3030 times.
- The number of students is at most 100100.

- Each student number is a nonnegative integer less than 102010^{20}.
- The student numbers are distinct.
- $1 \le s \le 10101 \le s \le 10^{10}$

Scoring

- You get 100100 ❤️ points if you solve all test cases where:
  - $s \le 200 s \le 200$
- You get 5050 💔 points if you solve all test cases.

Report an issue

Clarifications

No clarifications have been made at this time.