[CS 11] Prac 6b – Race Track

Problem Statement

You are an engineer inspecting the circular race track. You divide the race track into n sections and assign each one a *height* value representing its average height.

To make racing in the track as smooth as possible to any runner, you've decided to look for *bad sections*. We say a section is **bad** if its height is strictly less than that of both of its neighbors', *or* strictly greater than both of its neighbors'.

Note that because the track is circular, every section always has two neighbors—the "first" and "last" tracks are adjacent.

How many bad sections are there?

Task Details

Your task is to implement a function called `bad_section_count`. This function has a single parameter, a `tuple` of n `int`s representing the heights of the n sections in consecutive order.

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

Restrictions

(See 6a for more restrictions)

For this problem:

- Loops and lists are allowed.
- Up to 3 function definitions are allowed.
- Recursion is **disallowed**. (The recursion limit has been greatly reduced.)
- Sets and dictionaries are **disallowed**.
- Generators and comprehensions are **disallowed**.
- The source code limit is 600.

Example Calls

Example 1 Function Call

```
bad_section_count((3, 1, 4, 1, 5, 9, 2, 6, 5))
```

Example 1 Return Value

```
6
```

Example 2 Function Call

```
bad_section_count((5, 5, 5))
```

Example 2 Return Value

```
0
```

Example 3 Function Call

```
bad_section_count((1, 2, 2, 2))
```

Example 3 Return Value

```
1
```

Constraints

When your program is run:

- The function `bad_section_count` will be called at most $50,000$ times.
- The sum of the ns is at most $150,000$.
- $3 \leq n \leq 150,000$
- Each height value is a positive integer at most 10^{10}.

Scoring

- You get 50 ❤ points if you solve all test cases where:
  - $n \leq 50$
  - the sum of the ns is at most 500.
- You get 100 ❤ points if you solve all test cases where:
  - $n \leq 4,000$
  - the sum of the ns is at most $8,000$.
- You get 25 ❤ points if you solve all test cases.

❓ Clarifications

Report an issue

No clarifications have been made at this time.

Submit ...

[CS 11]
Practice 6 ❤

✔ **Points:** 175 (partial)
⏱ **Time limit:** 6.0s
▤ **Memory limit:** 1G

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❯ **Problem type**

❮ **Allowed languages**
  NONE, py3