



[CS 11] Prac 9I – Competitive Catherine

Problem Statement

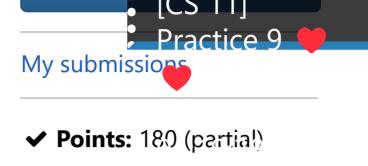
EVO has decided to hold the competitive tournament for the game "Catherine" this year as a round robin tournament.

There are n players, each with a given skill level, and each unique pair of players will have exactly one match. For example, for $n = 5$ players, there will be exactly 10 matches.

EVO knows their audience, and knows exactly how much excitement each match-up will generate! For a match between two players with skill levels s_1 and s_2 , they have come up with the following formula for the amount of **excitement** that the match will generate:

$$\text{excitement} = \begin{cases} s_1 s_2 & \text{if } s_1 s_2 \text{ is odd;} \\ s_1 s_2 + s_1 + s_2 + 1 & \text{if } s_1 s_2 \text{ is even.} \end{cases}$$

Given the skill levels of the n players, what is the total amount of excitement across all matches?



✓ Points: 180 (partial)
⌚ Time limit: 9.0s
💻 Memory limit: 1G

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➤ Problem type

▼ Allowed languages
NONE, py3

Task Details

Your task is to implement a function called `total_excitement`. This function has a single parameter, a `tuple` or `list` of n `int`s.

The function must return an `int` denoting the total excitement across all n matches.

Restrictions

(See 9a for more restrictions)

For this problem in particular:

- Recursion is allowed.
- The source code limit is 2000.

Example Calls

Example 1 Function Call

```
total_excitement([3, 1, 4])
```

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Example 1 Return Value

```
33
```

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Constraints

- The function `total_excitement` will be called at most 60,000 times.
- The sum of all ns is at most 200,000
- $0 \leq n \leq 200,000$
- Each skill level is an integer between 1 and 10^{10} .

Scoring

- You get 50 ❤ points if you solve all test cases where:
 - $n \leq 50$
 - The sum of all ns is at most 500.
- You get 60 ❤ points if you solve all test cases where:
 - $n \leq 4,000$
 - The sum of all ns is at most 8,000.
- You get 70 ❤ points if you solve all test cases.

?

Clarifications

Report an issue

No clarifications have been made at this time.