Problem 492: Construct the Rectangle

Problem Information

Difficulty: Easy
Acceptance Rate: 62.34%
Paid Only: No
Tags: Math

Problem Description

A web developer needs to know how to design a web page's size. So, given a specific rectangular web page's area, your job by now is to design a rectangular web page, whose length L and width W satisfy the following requirements:

1. The area of the rectangular web page you designed must equal to the given target area. 2. The width `W` should not be larger than the length `L`, which means `L >= W`. 3. The difference between length `L` and width `W` should be as small as possible.

Return _an array`[L, W]` where `L` and `W` are the length and width of the web page you designed in sequence._

Example 1:

Input: area = 4 **Output:** [2,2] **Explanation:** The target area is 4, and all the possible ways to construct it are [1,4], [2,2], [4,1]. But according to requirement 2, [1,4] is illegal; according to requirement 3, [4,1] is not optimal compared to [2,2]. So the length L is 2, and the width W is 2.

Example 2:

Input: area = 37 **Output:** [37,1]

Example 3:

Input: area = 122122 **Output:** [427,286]

Constraints:

* `1 <= area <= 107`

Code Snippets

C++:

```cpp
class Solution {
public:
vector<int> constructRectangle(int area) {


}
};
```

Java:

```java
class Solution {
public int[] constructRectangle(int area) {


}
}
```

Python3:

```python
class Solution:
def constructRectangle(self, area: int) -> List[int]:
```