Problem 2437: Number of Valid Clock Times

Problem Information

Difficulty: Easy
Acceptance Rate: 47.72%
Paid Only: No
Tags: String, Enumeration

Problem Description

You are given a string of length `5` called `time`, representing the current time on a digital clock in the format `"hh:mm"`. The **earliest** possible time is `"00:00"` and the **latest** possible time is `"23:59"`.

In the string `time`, the digits represented by the `?` symbol are **unknown** , and must be **replaced** with a digit from `0` to `9`.

Return _an integer_`answer` _, the number of valid clock times that can be created by replacing every_`?`_ with a digit from _`0` _to_`9`.

Example 1:

Input: time = "?5:00" **Output:** 2 **Explanation:** We can replace the ? with either a 0 or 1, producing "05:00" or "15:00". Note that we cannot replace it with a 2, since the time "25:00" is invalid. In total, we have two choices.

Example 2:

Input: time = "0?:0?" **Output:** 100 **Explanation:** Each ? can be replaced by any digit from 0 to 9, so we have 100 total choices.

Example 3:

Input: time = "??:??" **Output:** 1440 **Explanation:** There are 24 possible choices for the hours, and 60 possible choices for the minutes. In total, we have 24 * 60 = 1440 choices.

Constraints:

* `time` is a valid string of length `5` in the format `"hh:mm"`. * `"00" <= hh <= "23"` * `"00" <= mm <= "59"` * Some of the digits might be replaced with `'?'` and need to be replaced with digits from `0` to `9`.

Code Snippets

C++:

```
class Solution {
public:
int countTime(string time) {

}
};
```

Java:

```
class Solution {
public int countTime(String time) {

}
}
```

Python3:

```
class Solution:
def countTime(self, time: str) -> int:
```