

2437. Number of Valid Clock Times

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`.

