1927. Sum Game

Description

Alice and Bob take turns playing a game, with **Alice** **starting first**.

You are given a string `num` of **even length** consisting of digits and `'?'` characters. On each turn, a player will do the following if there is still at least one `'?'` in `num`:

1. Choose an index `i` where `num[i] == '?'`.
2. Replace `num[i]` with any digit between `'0'` and `'9'`.

The game ends when there are no more `'?'` characters in `num`.

For Bob to win, the sum of the digits in the first half of `num` must be **equal** to the sum of the digits in the second half. For Alice to win, the sums must **not be equal**.

- For example, if the game ended with `num = "243801"`, then Bob wins because `2+4+3 = 8+0+1`. If the game ended with `num = "243803"`, then Alice wins because `2+4+3 != 8+0+3`.

Assuming Alice and Bob play **optimally**, return `true` *if Alice will win and* `false` *if Bob will win*.

Example 1:

```
Input: num = "5023"
Output: false
Explanation: There are no moves to be made.
The sum of the first half is equal to the sum of the second half: 5 + 0 = 2 + 3.
```

Example 2:

```
Input: num = "25??"
Output: true
Explanation: Alice can replace one of the '?'s with '9' and it will be impossible for Bob to make the sums equal.
```

Example 3:

```
Input: num = "?3295???"
Output: false
Explanation: It can be proven that Bob will always win. One possible outcome is:
- Alice replaces the first '?' with '9'. num = "93295???".
- Bob replaces one of the '?' in the right half with '9'. num = "932959??".
- Alice replaces one of the '?' in the right half with '2'. num = "9329592?".
- Bob replaces the last '?' in the right half with '7'. num = "93295927".
Bob wins because 9 + 3 + 2 + 9 = 5 + 9 + 2 + 7.
```

Constraints:

- `2 <= num.length <= 10^5`
- `num.length` is **even**.
- `num` consists of only digits and `'?'`.