Problem 3360: Stone Removal Game

Problem Information

Difficulty: Easy
Acceptance Rate: 42.22%
Paid Only: No
Tags: Math, Simulation

Problem Description

Alice and Bob are playing a game where they take turns removing stones from a pile, with _Alice going first_.

* Alice starts by removing **exactly** 10 stones on her first turn. * For each subsequent turn, each player removes **exactly** 1 fewer**** stone**** than the previous opponent.

The player who cannot make a move loses the game.

Given a positive integer `n`, return `true` if Alice wins the game and `false` otherwise.

Example 1:

Input: n = 12

Output: true

Explanation:

* Alice removes 10 stones on her first turn, leaving 2 stones for Bob. * Bob cannot remove 9 stones, so Alice wins.

Example 2:

Input: n = 1

Output: false

Explanation:

* Alice cannot remove 10 stones, so Alice loses.

Constraints:

* `1 <= n <= 50`

Code Snippets

C++:

```
class Solution {
public:
bool canAliceWin(int n) {

}
};
```

Java:

```
class Solution {
public boolean canAliceWin(int n) {

}
}
```

Python3:

```
class Solution:
def canAliceWin(self, n: int) -> bool:
```