**1753. Maximum Score From Removing Stones**

Medium

11715Add to ListShare

You are playing a solitaire game with **three piles** of stones of sizes a​​​​​​, b,​​​​​​ and c​​​​​​ respectively. Each turn you choose two **different non-empty**piles, take one stone from each, and add 1 point to your score. The game stops when there are **fewer than two non-empty** piles (meaning there are no more available moves).

Given three integers a​​​​​, b,​​​​​ and c​​​​​, return *the* ***maximum* *score****you can get.*

**Example 1:**

**Input:** a = 2, b = 4, c = 6

**Output:** 6

**Explanation:** The starting state is (2, 4, 6). One optimal set of moves is:

- Take from 1st and 3rd piles, state is now (1, 4, 5)

- Take from 1st and 3rd piles, state is now (0, 4, 4)

- Take from 2nd and 3rd piles, state is now (0, 3, 3)

- Take from 2nd and 3rd piles, state is now (0, 2, 2)

- Take from 2nd and 3rd piles, state is now (0, 1, 1)

- Take from 2nd and 3rd piles, state is now (0, 0, 0)

There are fewer than two non-empty piles, so the game ends. Total: 6 points.

**Example 2:**

**Input:** a = 4, b = 4, c = 6

**Output:** 7

**Explanation:** The starting state is (4, 4, 6). One optimal set of moves is:

- Take from 1st and 2nd piles, state is now (3, 3, 6)

- Take from 1st and 3rd piles, state is now (2, 3, 5)

- Take from 1st and 3rd piles, state is now (1, 3, 4)

- Take from 1st and 3rd piles, state is now (0, 3, 3)

- Take from 2nd and 3rd piles, state is now (0, 2, 2)

- Take from 2nd and 3rd piles, state is now (0, 1, 1)

- Take from 2nd and 3rd piles, state is now (0, 0, 0)

There are fewer than two non-empty piles, so the game ends. Total: 7 points.

**Example 3:**

**Input:** a = 1, b = 8, c = 8

**Output:** 8

**Explanation:** One optimal set of moves is to take from the 2nd and 3rd piles for 8 turns until they are empty.

After that, there are fewer than two non-empty piles, so the game ends.

**Constraints:**

* 1 <= a, b, c <= 105

Accepted

8,802

Submissions

14,395

Seen this question in a real interview before?

Yes

No

Companies

Related Topics

Hide Hint 1

It's optimal to always remove one stone from the biggest 2 piles

Hide Hint 2

Note that the limits are small enough for simulation