5673. Maximum Score From Removing Stones

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User Accepted:	0
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Total Accepted:	0
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Difficulty:	Medium

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 <=` 10^5

JavaScript

```
/**
 * @param {number} a
 * @param {number} b
 * @param {number} c
 * @return {number}
 */
const maximumScore = (a, b, c) => {
    let t = [a, b, c];
    let cnt = 0;
    while (true) {
        t.sort((x, y) => y - x);
        if (t[0] > 0) {
            if (t[1] > 0) {
```

```
14                t[0]--;
15                t[1]--;
16                cnt++;
17            } else {
18                if (t[2] > 0) {
19                    t[0]--;
20                    t[2]--;
21                    cnt++;
22                } else {
23                    break;
24                }
25            }
26        } else {
27            if (t[1] > 0) {
28                if (t[2] > 0) {
29                    t[1]--;
30                    t[2]--;
31                    cnt++;
32                } else {
33                    break;
34                }
35            } else {
36                break;
37            }
38        }
39    }
40    return cnt;
41};
```

Custom Testcase Use Example Testcases

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