

ConsecutiveSums

In this problem you will implement four methods in the `ConsecutiveSums` class. The four methods are `theseIntsSumTo()`, `fewestConsecutiveIntegersSumTo()`, `longestConsecutiveIntegersSumTo()`, and `smallestNumberGreaterThan()`.

- **In this problem only positive Integers (>0) are to be considered. That is, you may assume NO negative numbers!**

The `theseIntsSumTo(int num, int n)` returns an `int[]` containing `n` consecutive `int` values (in ascending order) which sum to `num`. If no `int[]`s exist that fulfill these requirements, return `null`.

The following code shows the results of the `theseIntsSumTo(num, n)` method.

The following code	Returns
<code>int[] ans = ConsecutiveSums.theseIntsSumTo(25, 2);</code>	
<code>ans.length;</code>	2
<code>ans[0];</code>	12
<code>ans[1];</code>	13

The `fewestConsecutiveIntegersSumTo(int num)` returns an `int[]` (with the smallest length greater than 1) containing consecutive `int` values (in ascending order) which sum to `num`.

- **Note: num > 0**

The following code shows the results of the `fewestConsecutiveIntegersSumTo(num)` method.

The following code	Returns
<code>ans = ConsecutiveSums.fewestConsecutiveIntegersSumTo(100);</code>	
<code>ans.length;</code>	5
<code>ans[0];</code>	18
<code>ans[1];</code>	19
<code>ans[2];</code>	20
<code>ans[3];</code>	21
<code>ans[4];</code>	22

The `longestConsecutiveIntegersSumTo(int num)` returns an `int[]` (with the largest length) containing consecutive positive (i.e., greater than 0) `int` values (in ascending order) which sum to `num`.

- **Note: `num > 0`**

The following code shows the results of the `fewestConsecutiveIntegersSumTo(num)` method.

The following code	Returns
<code>ans = ConsecutiveSums.longestConsecutiveIntegersSumTo(200);</code>	
<code>ans.length;</code>	16
<code>ans[0];</code>	5
<code>ans[1];</code>	6
<code>ans[2];</code>	7
<code>ans[3];</code>	8
<code>ans[4];</code>	9
<code>ans[5];</code>	10
<code>ans[6];</code>	11
<code>ans[7];</code>	12
<code>ans[8];</code>	13
<code>ans[9];</code>	14
<code>ans[10];</code>	15
<code>ans[11];</code>	16
<code>ans[12];</code>	17
<code>ans[13];</code>	18
<code>ans[14];</code>	19
<code>ans[15];</code>	20

The `smallestNumberGreaterThan(int num)` the smallest number greater than (not equal to) `num` that **cannot** be expressed as a sum of `n` consecutive positive `ints`.

- **Note: `num > 0`**

The following code shows the results of the `smallestNumberGreaterThan(num)` method.

The following code	Returns
<code>ConsecutiveSums.smallestNumberGreaterThan(2018)</code>	2048