Keith Numbers

A Keith number is defined to be a number greater than 9 which appears in a Fibonacci-like sequence starting with its own digits. Each number in the sequence is the sum of the previous n numbers where n is the number of digits in the original number. The well-known Fibonacci sequence is defined to a series of integers starting with 1 and 1 and where each successive integer is the sum of the previous two integers. It starts out with the following 1, 1, 2, 3, 5, 8, 13, 21, 34...

As an example, 14 is a Keith number. The Fibonacci-like sequence seeded with the number 14 starts with the digits of 14, i.e. 1 and 4. Each of the rest of the numbers in the sequence is the sum of the previous two numbers. 1, 4, 5, 9, 14. We stop here because we see that 14 is part of the sequence.

As another example we would like to see if 371 is a Keith number. The Fibonacci-like sequence seeded with the number 371 start the sequence with the three digits of 371, i.e. 3, 7, and 1. Since there are three digits, each subsequent number in the sequence is the sum of the previous three numbers. For 371 the sequence starts as follows: 3, 7, 1, 11, 19, 31, 61, 111, 203, 375. We can stop here because we see that we have passed by 371 and 371 is NOT a Keith Number.

You will implement two methods in the `KeithNumber` class. The `KeithNumber` class has a single constructor with a single `int` used to seed the Fibonacci-like sequence. The two methods you will implement are the `getNterms(int n)` and the `isKeithNumber()` methods.

The `getNterms(int n)` returns a List containing the first n terms of the Fibonacci-like sequence using the `int` provided to the constructor.

The following code shows the results of the `getNterms` method.

The following code	Returns
`KeithNumber kn = new KeithNumber(14);` `int[] ans = kn.getNterms(7);`	
`ans.length;`	7
`ans[0];`	1
`ans[1];`	4
`ans[2];`	5
`ans[3];`	9
`ans[4];`	14
`ans[5];`	23
`ans[6];`	37

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The following code shows the results of the `getNterms` method.

The following code	Returns
`KeithNumber kn = new KeithNumber(197);` `int[] ans = kn.getNterms(8);`	
`ans.length;`	`8`
`ans[0];`	`1`
`ans[1];`	`9`
`ans[2];`	`7`
`ans[3];`	`17`
`ans[4];`	`33`
`ans[5];`	`57`
`ans[6];`	`107`
`ans[7];`	`197`

The `isKeithNumber()` method returns true if the current seed is a KeithNumber and false otherwise.

The following code shows the results of the `isKeithNumber` method.

The following code	Returns
`KeithNumber kn = new KeithNumber(14);`	
`kn.isKeithNumber();`	`true`

The following code shows the results of the `isKeithNumber` method.

The following code	Returns
`KeithNumber kn = new KeithNumber(197);`	
`kn.isKeithNumber();`	`true`

The following code shows the results of the `isKeithNumber` method.

The following code	Returns
`KeithNumber kn = new KeithNumber(100);`	
`kn.isKeithNumber();`	`false`