

DoubleMindedNumbers

A number has the property of being *DoubleMinded* if it contains exactly one pair of identical digits, and all other digits appear at most once in the number.

The following numbers are examples of numbers with the *DoubleMinded* property:

- 66
- 26964
- 1036850
- 112034

The following numbers are examples of numbers that do **NOT** have the *DoubleMinded* property:

- 8 // no pair of identical digits
- 2964 // no pair of identical digits
- 1003650 // three identical digits (0 appears three times)
- 16861 // two pair of identical digits (two 6's and two 1's)
// or one pair of identical digits, another digits appears more thanonce

In this problem you are to implement three static methods in the `DoubleMinded` class. The first method to implement is `isDoubleMindedNumber(int num)`. `isDoubleMindedNumber` returns true if the parameter `num` has the *DoubleMinded* property.

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

The following code	Returns
<code>DoubleMindedNumbers.isDoubleMindedNumber(66)</code>	true
<code>DoubleMindedNumbers.isDoubleMindedNumber(26964)</code>	true
<code>DoubleMindedNumbers.isDoubleMindedNumber(1036850)</code>	true
<code>DoubleMindedNumbers.isDoubleMindedNumber(112034)</code>	true
<code>DoubleMindedNumbers.isDoubleMindedNumber(8)</code>	false
<code>DoubleMindedNumbers.isDoubleMindedNumber(2964)</code>	false
<code>DoubleMindedNumbers.isDoubleMindedNumber(1003650)</code>	false
<code>DoubleMindedNumbers.isDoubleMindedNumber(16861)</code>	false

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The second method to implement is the `distanceToNextDoubleMindedNumber(int num)`. `distanceToNextDoubleMindedNumber` returns the minimum (non negative) value `d`, such that the sum, `d + the parameter num`, has the *DoubleMinded* property.

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

The following code	Returns
<code>DoubleMindedNumbers.distanceToNextDoubleMindedNumber(8)</code>	3
<code>DoubleMindedNumbers.distanceToNextDoubleMindedNumber(295)</code>	4
<code>DoubleMindedNumbers.distanceToNextDoubleMindedNumber(66)</code>	0
<code>DoubleMindedNumbers.distanceToNextDoubleMindedNumber(111261)</code>	773

The third method to implement is the `getDoubleMindedBetween(int min, int max)`. `getDoubleMindedBetween(int min, int max)` returns an array containing all numbers with the *DoubleMinded* property between the parameters `min` and `max`, inclusive.

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

The following code	Returns
<code>int[] ans = DoubleMindedNumbers.getDoubleMindedBetween(34, 65)</code>	
<code>ans.length</code>	2
<code>ans[0] == 44 ans[1] == 44</code>	true
<code>ans[0] == 55 ans[1] == 55</code>	true

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

The following code	Returns
<code>int[] ans = DoubleMindedNumbers.getDoubleMindedBetween(121, 131)</code>	
<code>ans.length</code>	3
<code>ans[0] == 121 ans[1] == 121 ans[2] == 121</code>	true
<code>ans[0] == 122 ans[1] == 122 ans[2] == 122</code>	true
<code>ans[0] == 131 ans[1] == 131 ans[2] == 131</code>	true