Lucky Independence Day

It's the Independence day occation and since it falls in the 8th month of the year Dashiya considers 8 as his lucky digit too. But Dashu considers X as his lucky number. Dashu decided to find out the length of the minimum luckiest number such that the number is divisible by X and consist of only digit 8 in the number so that both Dashiya and Dashu are happy. Now, since Dashu is your friend , he asks for your help since he does not want to spoil the friendship with Dashiya on Independence Day as they have planned to fly kites together.

Input Format

The first and the only line of the input of each file is the number X, the lucky number for Dashu.

Constraints

- $1 \leq X \leq 10^{18}$

Output Format

The output should be the number of digits in the resultant number such that it is made of only '8' as the digit and is divisible by X.

Sample Input 0

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8
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Sample Output 0

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1
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Explanation 0

For this, the lucky number is 8. Therefore 8 is divisible by 8 and thus the minimal length is 1.

Sample Input 1

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11
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Sample Output 1

```
2
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Explanation 1

For this the lucky number is 11. The smallest number containing only '8' as digit is 88. Therefore the length of 88 is 2. And the answer is 2.