Coin Change

Time Limit: 1 Second
Memory Limit: 256 MB

As we all know, US dollar has six types of coins: penny (1¢), nickel (5¢), dime (10¢), quarter (25¢), half dollar (50¢), and dollar (100¢). As a billionaire, LetianPie wants to build a house full of coins with some of his wealth! Although LetianPie has enough amount of money to construct a large house with any type of coins, he wants his house to be made up of coins with diverse types. As his chief software engineer, he asks you to find out the number of ways to turn his money into six types of coins mentioned above. Two ways are different if the sequence of coins are different (because they will yield different patterns in the house!). For example, (1¢+ 5¢)is different from (5¢+ 1¢). Since the number can be large, print the value modulo 998 244 353.

Input

The only line of input contains a single integer n ($1 \leq n \leq 10^{18}$) - the amount of money (in dollars) LetianPie wants to turn to coins.

Output

Output a single integer denoting the number of ways to turn the amount into coins modulo 998 244 353.

Sample Inputs

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10
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Sample Outputs

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634970013
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