A. Nearest Interesting Number

time limit per test

1 second

memory limit per test

256 megabytes

input

standard input

output

standard output

Polycarp knows that if the sum of the digits of a number is divisible by 3, then the number itself is divisible by 3. He assumes that the numbers, the sum of the digits of which is divisible by 4, are also somewhat interesting. Thus, he considers a positive integer n interesting if its sum of digits is divisible by 4.

Help Polycarp find the nearest larger or equal interesting number for the given number a. That is, find the interesting number n such that $n \geq a$ and n is minimal.

Input

The only line in the input contains an integer a ($1 \leq a \leq 1000$).

Output

Print the nearest greater or equal interesting number for the given number a. In other words, print the interesting number n such that $n \geq a$ and n is minimal.

Examples

input

Copy

432

output

Copy

435

input

Copy

99

output

Copy

103

input

Copy

237

output

Copy

237

input

Copy

42

output

Copy

44