

Problem B. Nearest Interesting Number

Time limit 1000 ms

Mem limit 262144 kB

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	Output
432	435

Input	Output
99	103

Input	Output
237	237

Input	Output
42	44