

Egg Cartons

There are two types of egg cartons. One type contains 6 eggs and the other type contains 8 eggs. John wants to buy exactly n eggs. Find and print the minimal number of egg cartons he must buy. If it's impossible to buy exactly n eggs, print -1. n will be between 1 and 100, inclusive.

Input Specification

The input will contain several test cases, each test cases will be in a single line with the given integer n .

Output Specification

Print one line per test case with the answer, follow the format below

Input Example

20
24
15
4

Output Example

3
3
-1
-1