

Problem D. Delivering

You are owning a salt factory. You have just received an order from South Korea: You have to deliver exactly N kilograms of salt over there. You are only allowed to use two types of packages - the ones that contain 4-kilograms, and the ones with 7-kilograms of salt.

You would like to take as few packages as possible. For example, if you have to deliver 40 kilograms of salt, you could use ten 4-kilogram packages. But, it would be better to use four 7-kilogram packages and three 4-kilogram packages, resulting in total of seven packages.

Given the number of kilograms N , find the minimum number of packages that you need to send N kilograms of salt.

Input

Your input consists of an arbitrary number of records, but no more than 10,000. Each input record is a line that consists of exactly one integer N ($1 \leq N \leq 50,000$). The end of input is indicated by a line containing only the value -1 .

Output

For each input record, print a line that contains the minimum number of packages that you need to use. However, in some cases, it might be impossible to send N kilograms of salt just by using packages. In that case, print -1 instead.

Example

Standard input	Standard output
32	5
40	7
62	11
-1	

Time Limit

1 second.