Problem G. Moore's Law

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	64 megabytes

In 1965, one of the Intel corporation founders, Gordon Moore noticed that number of transistors on integrated circuit chip doubles every 24 month. Nowadays, British scientists have decided to clarify this empirical law. As a result of this research, the number of transistors can be only represented as a decimal number containing only digits 1 and 2. Thus, first generation of integrated circuits had only 2 transistors and second generation had 12 transistors, respectively. Furthermore, according to a new version of Moore's Law, for n-th generation of integrated circuit number of transistors should be a multiple of 2^n. To check the British scientists' experimental results you are required to design a program, which computes number of transistors on n-th generation of integrated circuits according to a new Moore's law.

Input

A single line contains a positive integer n – considered generation of integrated circuits.

$$1 \leq n \leq 42$$

Output

You are required to compute number of transistors on integrated circuit chip for given generation n according to the given above constraints. The output should not exceed 10^{100000}. If multiple answers exist, you may output any of them. If the correct number of transistors does not exist, output `-1`.

Examples

standard input	standard output
1	2
2	2112