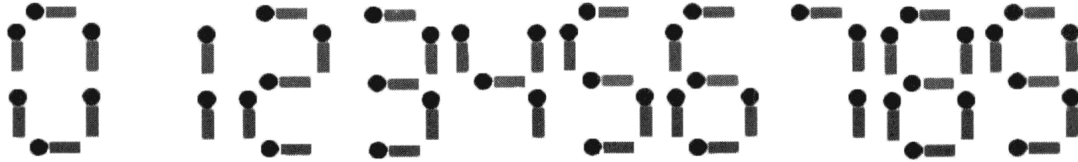


Matchstick Equation

Problem description

Given n matchsticks, how many equations of the form “ $A+B=C$ ” can you make? In the equation, A , B , and C are integers made out of matchsticks (if the number is not zero, the highest digit cannot be zero). The numbers 0-9 could be made with matchsticks as shown in the picture:



Note:

1. The plus sign and the equal sign each need two matchsticks.
2. If $A \neq B$, then $A+B=C$ and $B+A=C$ are regarded as different equations ($A, B, C \geq 0$).
3. All n matchsticks must be used.

Input

An integer n ($1 \leq n \leq 24$).

Output

The output file has one integer indicating the number of different equations that can be spelled.

Sample Input 1

14

Sample Output 1

2

Sample Input 2

18

Sample Output 2

9

Hint

[Explanation of Sample 1]

The two equations are $0+1=1$ and $1+0=1$.

[Explanation of Sample 2]

The 9 equations are:

$$0 + 4 = 4$$

$$0 + 11 = 11$$

$$1 + 10 = 11$$

$$2 + 2 = 4$$

$$2 + 7 = 9$$

$$4 + 0 = 4$$

$$7 + 2 = 9$$

$$10 + 1 = 11$$

$$11 + 0 = 11$$