Funny Game

Clever Bob loves playing with toy blocks. As a young boy, he is able to use these toy blocks to build houses, boats, cars, etc. Since the number of toy blocks is limited, the clever boy always calculates the number of blocks that is needed to build a house or a boat before starting to build, and then separate the toy blocks into several groups, finally in each group he builds a house or boat etc.

It seems that the boy is too clever to get bored on these blocks. Then, one day he finds an interest problem, how many ways he could separate all these blocks into groups?

Input

Input contains multiple test cases and is terminated by end of file. Each test case contains one integer $\mathbf{n}$ (the total number of toy blocks, $1 \leq \mathbf{n} \leq 300$).

Output

For each test case, print the number of ways that Bob could separate all these toy blocks into groups.

See the case in the example.

Sample Input

5

Sample Output

7

Hints

In the first example, the toy blocks could be separated into:

5 = 5

5 = 1 + 4, 2+3

5 = 1 + 1 + 3, 1 + 2 + 2

5 = 1 + 1 + 1 + 2

5 = 1 + 1 + 1 + 1 + 1

So, in total there are 7 kind of ways to separate the toy blocks into groups.