A Graph Problem

Time limit: 2s

Given an undirected graph of the following form with n nodes, $1 \leq n \leq 76$:

Your task is to calculate the number of subsets of nodes of the graph with the following properties:

- no nodes in the subset should be connected
- it shouldn't be possible to add further nodes to the subset without violating the first condition

For a graph with 5 nodes the number of subsets which fulfill the above conditions is 4. The subsets are {1,3,5},{2,4},{2,5},{1,4}.

Input

The input will consist of a sequence of numbers n,$1 \leq n \leq 76$. Each number will be on a separate line. The input will be terminated by EOF.

Output

Output the number of subsets as described above on a single line. The number of all subsets will be less than 2^31.

Sample input

```
1
2
3
4
5
30
```

Sample output

```
1
2
2
3
4
4410
```

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