# G // Zhehai’s Priorities

Just in case Zhehai crashes, he wants to separate some of his presents so that half of the value is at the front of the car while the other half is at the back. He has a collection of N presents, each numbered from 1 - N on a scale of importance. Given a number N, find the number of ways Zhehai can split his presents, so that half of the value is in the front while the other half is in the back.

If N = 3, there is one way {1,2} and {3}.

If N = 7, there are four ways for Zhehai to split his figurines:

- {1,6,7} and {2,3,4,5}
- {2,5,7} and {1,3,4,6}
- {3,4,7} and {1,2,5,6}
- {1,2,4,7} and {3,5,6}

**Input Specification:**
The first line will contain a single integer N ($1<=N<=39$). One can always partition the set into two equal halves (There is always at least 1 solution).

**Output Specification:**
Output the number of ways to divide a set of length N containing numbers 1-N into two different sets containing sums that are equal to one another.

**Sample Input 1:**

```
3
```

**Sample Output 1:**

```
1
```

**Sample Input 2:**

```
7
```

**Sample Output 2:**

```
4
```