Palindromic Integer Partition

Time limit: 0.5s **Memory limit:** 64M

A partition of an integer N is a series of positive integers that add up to N. For example, given the number 15, a partition could be $1 + 2 + 3 + 4 + 5$, which adds up to 15. A palindromic partition is when that series of positive integers is a palindrome. For example, a palindromic partition of the number 15 can be $3 + 9 + 3$.

To be specific, a palindromic series of integers count the integers as individual characters, so the series `10 + 1 + 10` is a palindrome, and just `21` is also a palindrome.

Given a number N, please find the number of different palindromic partitions.

Constraints

Subtask 1 [30%]

$1 \leq N \leq 10$

Subtask 2 [50%]

$1 \leq N \leq 50$

Subtask 3 [20%]

$1 \leq N \leq 63$

Input Specification

One integer N.

Output Specification

Output the number of different palindromic partitions.

Sample Input

```
7
```

Sample Output

```
8
```

Explanation of Sample

The palindromic partitions of 7 are:

```
7 = 7
7 = 1 + 5 + 1
7 = 2 + 3 + 2
7 = 3 + 1 + 3
7 = 1 + 1 + 3 + 1 + 1
7 = 2 + 1 + 1 + 1 + 2
7 = 1 + 2 + 1 + 2 + 1
7 = 1 + 1 + 1 + 1 + 1 + 1 + 1
```

In total, there are 8 palindromic partitions.