

# Project Euler #166: Criss Cross



This problem is a programming version of [Problem 166](#) from [projecteuler.net](#)

A  $4 \times 4$  grid is filled with digits  $d, 0 \leq d \leq 9$ .

It can be seen that in the grid

```
6 3 3 0
5 0 4 3
0 7 1 4
1 2 4 5
```

the sum of each row and each column has the value **12**. Moreover the sum of each diagonal is also **12**.

In how many ways can you fill a  $4 \times 4$  grid with the digits  $d, 0 \leq d \leq n$  so that each row, each column, and both diagonals have the same sum?

## Input Format

One integer is given on first line representing  $n$

## Constraints

- $0 \leq n \leq 7$

## Output Format

Print one integer which is the answer to the problem.

## Sample Input 0

```
1
```

## Sample Output 0

```
34
```