Android Unlock Pattern

? Ask Doubt

Time-Limit: 1 sec Score: 100.00/100 Difficulty :

Memory: 256 MB Accepted Submissions: 100 Relevant For: AZ-201 AZ-202

Description

Android mobile unlock pattern is a grid of 3 x 3 cells, where drawing a specific pattern connecting a specific sequence of cells in order will unlock the android mobile.

Given a number *n*, your task is to find the number of android unlock patterns connecting exactly *n* cells.

Rules of a valid pattern:

1. Each pattern must connect exactly *n* cells.
2. All the cells must be distinct.
3. If the line connecting two consecutive cells in the pattern passes through any other cells, the other cells must have previously selected in the pattern. No jumps through the non-selected cell is allowed.
4. The order of cells used matters.

Input Format

The only line of input contains a single integer *n*.

Output Format

Print answer on a new line.

Constraints

$1 \le n \le 9$

Sample Input 1

Copy

```
1
```

Sample Output 1

Copy

```
9
```

Sample Input 2

Copy

C++14[GCC]

Submit

```
1
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