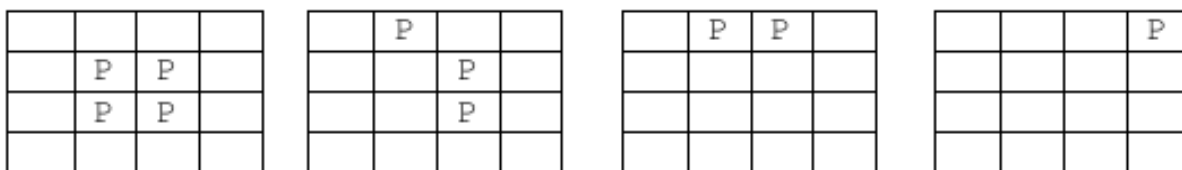


6431 Red John Game

Red John has a chess table of infinite dimensions, and $n * n$ pawns, arranged in an $n \times n$ square. The pawns can be moved horizontally or vertically, buy jumping over an (horizontally or vertically) adjacent pawn, and onto the next position, only if this position is unoccupied by another pawn. Also, when a valid move occurs, the jumped pawn is removed. Can you help Red John figure out if there is a sequence of moves which leaves only one pawn on the table ?

Below, such a sequence of moves is illustrated, for $n = 2$. Pawns are depicted by the letter P.



Input

The input file contains several test cases, each of them as described below.

The program input is from a text file. Each case consists of a value for n , with $0 < n < 10^9$, on a line by itself.

Output

For each test case, write to the output a '1' if there is a sequence of moves leaving only one pawn on the table, and '0' otherwise, on a line by itself.

Hint: Two examples of input/output pairs are shown below.

Sample Input

```
3
4
```

Sample Output

```
0
1
```