# DMOPC '23 Contest 1 P2 - Knights on Chessboard

**Time limit:** 2.0s **Memory limit:** 1G

The genius chess player A. Robbie gives you a puzzle on an empty $N$ by $N$ chessboard. To complete this puzzle, you must place at most $\lfloor \frac{N^2+3N}{5} \rfloor$ knights such that every square on the chessboard contains a knight or is being attacked by a knight. Formally, a knight on square $(x, y)$ attacks a square $(i, j)$ if $|x - i| = 1$ and $|y - j| = 2$, or $|x - i| = 2$ and $|y - j| = 1$. Can you solve A. Robbie's ultimate challenge?

## Constraints

$8 \leq N \leq 2 \times 10^3$

**Subtask 1 [10%]**

$N = 8$

**Subtask 2 [90%]**

No additional constraints.

## Input Specification

The first and only line contains the integer $N$.

## Output Specification

Output $N$ lines where each line contains $N$ space-separated binary values, where $0$ represents an empty square, and $1$ represents a knight. If there are multiple solutions, output any of them. If a solution does not exist, output $-1$.

## Sample Input

```
8
```

## Sample Output

```
0 1 1 1 1 1 1 0
1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1
1 1 1 0 0 1 1 1
1 1 1 0 0 1 1 1
1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1
0 1 1 1 1 1 1 0
```

## Explanation for Sample

**This sample is only shown to clarify the format of the output**. Note that this output is **incorrect**, as there are greater than $\lfloor \frac{N^2+3N}{5} \rfloor$ knights on the board, although all squares are either covered by a knight or attacked by a knight.