New Year's '15 P6 - Tiles

Time limit: 1.4s **Memory limit:** 256M

For his gift, Inaho got a $5 \times N$ grid of square cells, initially all white. He wants to colour exactly M cells black such that no two black cells are adjacent. Two cells are adjacent if they share a common side (so two cells which share only a corner are not adjacent). Output the number of ways to do this modulo $10^9 + 7$.

Constraints

- In test cases worth 25% of points, $1 \leq N \leq 6$.
- In test cases worth 25% of points, $7 \leq N \leq 10\,000$.
- In test cases worth 50% of points, $10^8 \leq N \leq 10^9$.

In all test cases, $0 \leq M \leq 50$.

Input Specification

The first and only line of input will contain N and M separated by a space.

Output Specification

A single line containing the answer.

Sample Input 1

```
1 2
```

Sample Output 1

```
6
```

Sample Input 2

```
3 3
```

Sample Output 2

```
215
```

Sample Input 3

```
420 50
```

Sample Output 3

```
763771419
```

Sample Input 4

```
2015 0
```

Sample Output 4

```
1
```