Chess on Planet X is very different from chess on Earth. It has a piece called the Super Queen, which can move and attack as a knight, a rook, and a bishop at the same time. However its powerful attack can be blocked with a Pawn, just like chess on Earth. Given an $(n - k) \times (n - k)$ chessboard, count the number of ways of placing n Super Queens and k pawns on it, such that none of the Super Queens are attacking each other.

Input

There is a number of inputs. Each input is n $(n < 19)$ and k $(k < 6)$ on a single line.

Output

For each input, output the number of ways on a single line.

Sample Input

```
13 1
18 4
```

Sample Output

```
72
16
```