ADDPOWER

Given two positive integers N and K, find $1^K + 2^K + 3^K + \cdots + N^K$.

Input

The first line contains an integer N. The second line contains an integer K. ($1 \leqslant N, K \leqslant 50$).

Output

Output the integer $1^K + 2^K + 3^K + \cdots + N^K$.

Example

Input	Output
3 1	6
3 2	14
20 18	426453788542828686799730