Easy Powers

Calculating a^b can be done using the recurrence f(a,b) such that if b > 0 f(a,b) = a*f(a,b-1) while if b = 0 then f(a,b) = 1.

Input

Two numbers in one lines separated by a space a (1<=a<=10) and b (1<=b<=12)

Output

One number which is the value of a^b

Example

Input:
3 9

Output:
19683