Ackermann

Assignment Description

The Ackermann function is defined as follows:

$$a(m, n) = n + 1 \qquad \text{if: } m = 0;$$
$$a(m, n) = a(m - 1, 1) \qquad \text{if: } m > 0 \text{ and } n = 0;$$
$$a(m, n) = a(m - 1, a(m, n - 1)) \qquad \text{if: } m > 0 \text{ and } n > 0;$$

Write a function that takes as input m and n and returns the value of $a(m, n)$.

Input-Output specification

A single string comprised of 2 integers m and n separated by a space.

Example

Input 1	Input 2	Output
0	0	1
1	2	4

Further Reading

Think Python chapter 5 (recursion)
Wikipedia: Ackermann function

Notes

Make sure to write efficient code. Think about the time complexity of the function.
Do keep in mind that the time complexity of the Ackermann function scales very hard. So if tried with values of $m > 3$ you will probably get errors related to timeouts or recursion depth limits.