Ackermann's Function

The Ackermann's function is defined by the following recurrence relation:
$A(1, j) = 2^j$ for $j \geq 1$
$A(i, 1) = A(i-1, 2)$ for $i \geq 2$
$A(i, j) = A(i-1, A(i, j-1))$ for $i, j \geq 2$

Use the recurrence relation to fill up as many values as you can in the table below. Start with Row 1 and work your way up to larger values of i and j.

Ackermann Table

i/j	1	2	3	4	...
1	۲	۴	۸	۱۶	
2	۴	۱۶	$۲^{۱۶}$	$۲^{۲^{۲^{۲}}}$	
3	۱۶				
...					

What pattern emerges in Row 2?