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	$\cdots$
1	2^1	2^2	2^3	2^4	
2	2^2	2^4	2^{16}	2^{65536}	
3	2^4				
...					

What pattern emerges in Row 2?

Each element becomes 2^X where X is the cell to its left. So from 2^2 we go to 2^{2^2} to $2^{2^{2^2}}$, etc.