

Ackermann's Function

The Ackermann's function is defined by the following recurrence relation:

$$A(1, j) = 2^j \text{ for } j \geq 1$$

$$A(i, 1) = A(i - 1, 2) \text{ for } i \geq 2$$

$$A(i, j) = A(i - 1, A(i, j - 1)) \text{ for } i, j \geq 2$$

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					
2					
3					
...					

What pattern emerges in Row 2?