

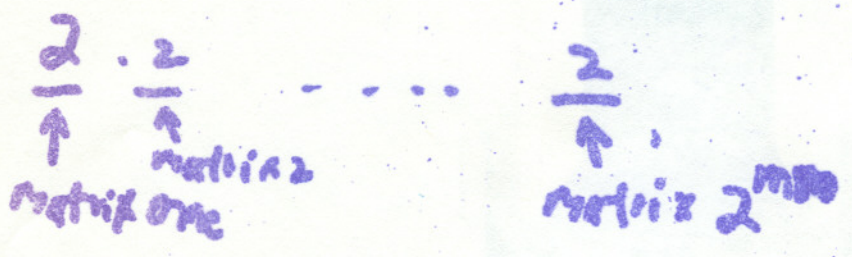
Q) How many functions are there which assign a number 0 or a number 1 to each  $m \times n$  matrix of 0's and 1's?

We want all functions

$f$ : The set of  $m \times n$  matrices of 0's and 1's  $\rightarrow \{0, 1\}$

There are  $2^{mn}$  matrices of 0's and 1's.

To describe one of our functions we must say where to send each matrix.



ans:  $2^{2^{mn}}$