Example :

Complete the following matrices multiplication

$$\begin{bmatrix} 1 & 2 & 2 \\ 0 & 0 & 3 \\ 1 & 3 & -1 \end{bmatrix} \times \begin{bmatrix} 1 & 2 \\ 3 & -1 \\ 1 & 1 \end{bmatrix} = \begin{bmatrix} & \\ & \\ & \end{bmatrix}$$

Let A and B be Boolean matrices,

$$A = \begin{bmatrix} 1 & 1 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \qquad \mathbf{B} = \begin{bmatrix} 1 & 0 & 0 \\ 1 & 1 & 1 \\ 0 & 0 & 1 \end{bmatrix}$$

Find the Boolean power of A ʘ B

$$\begin{bmatrix} 1 & 2 & 2 \\ 0 & 0 & 3 \\ 1 & 3 & -1 \end{bmatrix} \times \begin{bmatrix} 1 & 2 \\ 3 & -1 \\ 1 & 1 \end{bmatrix} = \begin{bmatrix} 9 & 2 \\ 3 & 3 \\ 9 & -2 \end{bmatrix}$$

: Boolean product A ×B is

$$A \times B = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \\ 0 & 0 & 1 \end{bmatrix}$$