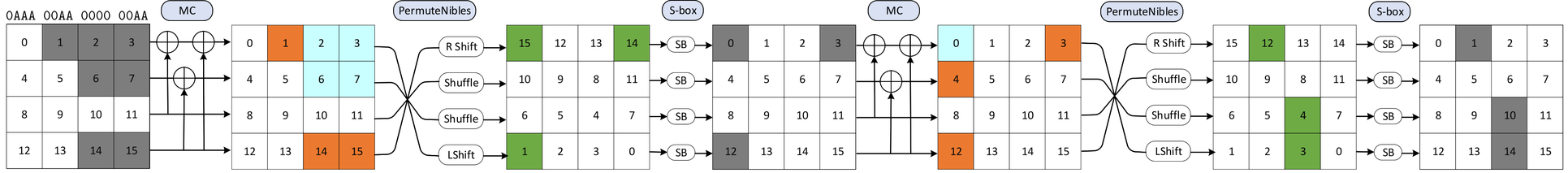
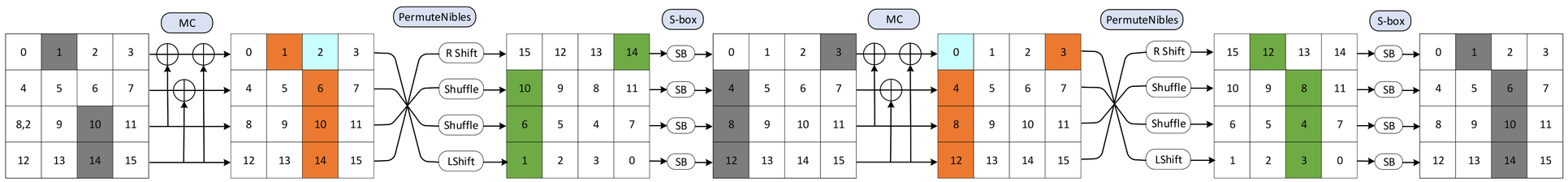
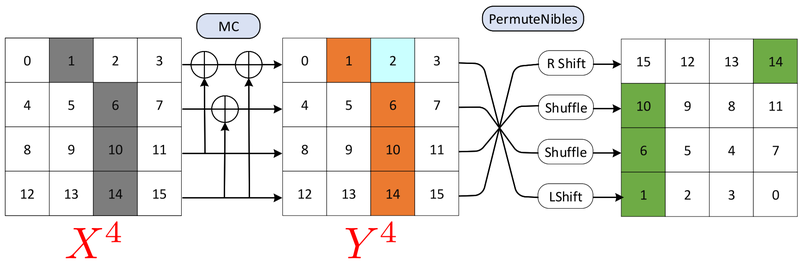




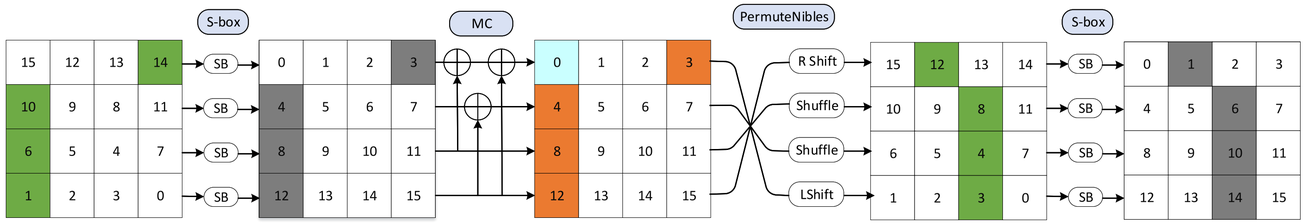


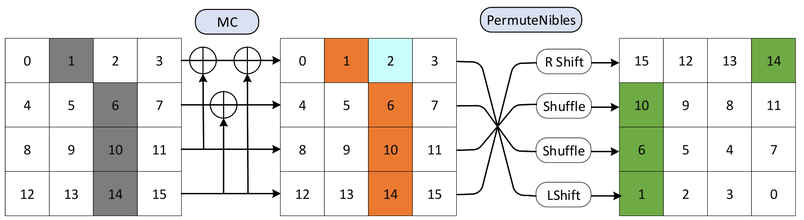
X^4 Y^4

Intermedaite values are taken from $\{5, 7, A, D, F\}$

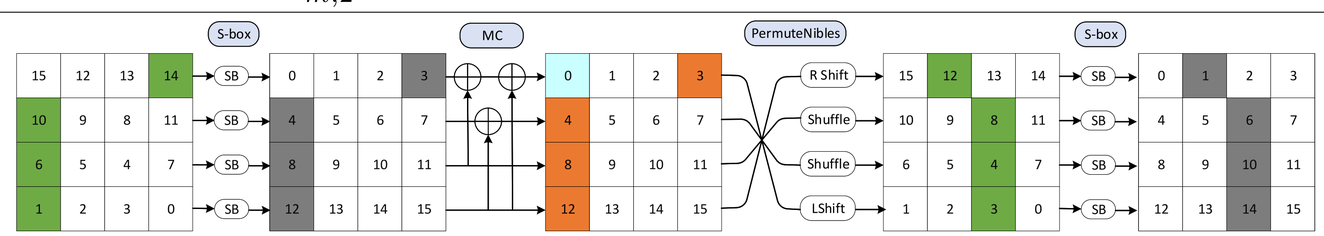
$X^4[14] = X^4[10] \neq X^4[6] \Longrightarrow$ There are $5 \times 5 \times 4 = 100$ possible values for Y^4

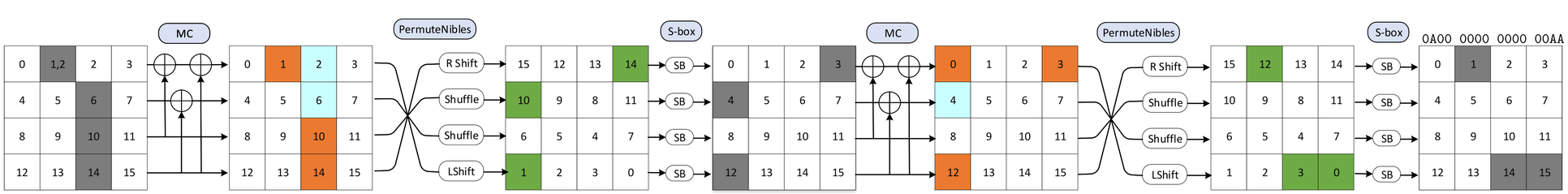
$E^{even}_{in,4}$





$E^{even}_{m,2}$





$E^{even}_{out,4}$

$$p^{in} = \begin{pmatrix} p^{in}_1 & \cdots & p^{in}_{100} \end{pmatrix}$$

$$p^{m} = \begin{pmatrix} p^{m}_{1,1} & \cdots & p^{m}_{1,100} \\ \vdots & \ddots & \vdots \\ p^{m}_{100,1} & \cdots & p^{m}_{100,100} \end{pmatrix}$$

$$p^{out} = \begin{pmatrix} p^{out}_1 \\ \vdots \\ p^{out}_{100} \end{pmatrix}$$

$$p^{tot} = p^{in} \times p^{m} \times p^{out}$$