Answer

$$\begin{bmatrix} p & = & 0 \\ c & = & 0 \\ box & = & \langle \, \rangle \end{bmatrix} \quad \rightarrow \quad \begin{bmatrix} p & = & 1 \\ c & = & 0 \\ box & = & \langle \text{``widget''} \rangle \end{bmatrix} \quad \rightarrow \quad \begin{bmatrix} p & = & 1 \\ c & = & 1 \\ box & = & \langle \, \rangle \end{bmatrix} \quad \rightarrow$$
$$p \oplus c = 0 \qquad\qquad\qquad p \oplus c = 1 \qquad\qquad\qquad p \oplus c = 0$$

$$\begin{bmatrix} p & = & 0 \\ c & = & 1 \\ box & = & \langle \text{``widget''} \rangle \end{bmatrix} \quad \rightarrow \quad \begin{bmatrix} p & = & 0 \\ c & = & 0 \\ box & = & \langle \, \rangle \end{bmatrix} \quad \rightarrow \cdots$$
$$p \oplus c = 1 \qquad\qquad\qquad p \oplus c = 0$$