$$\begin{array}{r} 0 \\ +\ 0 \\ \hline 0 \end{array}$$ Sum

$$\begin{array}{r} 0 \\ +\ 1 \\ \hline 1 \end{array}$$ Sum

$$\begin{array}{r} 1 \\ +\ 0 \\ \hline 1 \end{array}$$ Sum

$$\begin{array}{r} 1 \\ +\ 1 \\ \hline 10 \end{array}$$ Carry Sum

$$\begin{array}{r} 110 \\ +\ 100 \\ \hline 1010 \end{array}$$

$$\begin{array}{r} 111 \\ 111 \\ +\ 11 \\ \hline 1010 \end{array}$$

$10 = 2$

$$\begin{array}{r} 0 \\ -\ 0 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 1 \\ -\ 1 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 1 \\ -\ 0 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 10 \\ \cancel{0} \\ -\ 1 \\ \hline 1 \end{array}$$

$101 - 011 = ?$

$$\begin{array}{r} {}^{0}\cancel{1}\,{}^{10}\cancel{0}\,1 \quad {}^{7} \\ 011 \quad {}^{3} \\ \hline 010 \quad {}^{4} \end{array}$$

Example 2

$110 - 101 =$

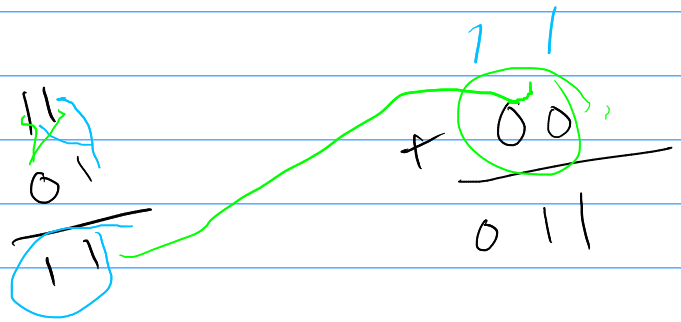
010

110

$-\ 101$

001

Ex 1.) $11 \times 01 = ?$



Ex 2.) $111 \times 101 = ?$

$$\begin{array}{r} 111 \\ 101 \\ \hline 111 \end{array} \qquad \begin{array}{r} 1 \\ +\ 1 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 1000 \\ 111 \\ \hline 1000\ 11 \end{array}$$

$$
\begin{array}{r}
 {\scriptstyle 1} \\
 0\,1\,0\,0\,1\,1\,0\,1 \\
+\qquad\quad 1 \\
\hline
 0\,1\,0\,0\,1\,1\,1\,0
\end{array}
\quad = \text{2's complement}
$$