

-127_{10}

$127 = \overset{128}{0} \overset{64}{0} \overset{32}{0} \overset{16}{0} \overset{8}{0} \overset{4}{0} \overset{2}{0} \overset{1}{0}$
 $\quad \quad \quad 1111111$
 $\quad \quad \quad = 127$

$127 = 0111,1111$

$= 1000,0000$ 1's comp

$-127_{10} = 1000,0001$ 2's comp

$1000,0001 =$

$\downarrow \quad \downarrow$
 $8 \quad 1$

$\text{FF81}_{16} = -127_{10}$

$110,000,001$
 $\downarrow \quad \downarrow \quad \downarrow$
 $6 \quad 0 \quad 1$

$77601_8 = -127_{10}$

$\begin{array}{r} 127 \\ +872 \\ \hline 9999 \end{array} \Rightarrow 9873_{10} = -127_{10}$

$9873_{10} = -127_{10} = \underline{1111}10000001_2 = \text{FF81}_{16} = 77601_8$

-10101_2

$\begin{array}{r} 16 \ 8 \ 4 \ 2 \ 1 \\ 10101 \\ \hline +5 \\ 21 \end{array}$

$= -21_{10}$

00010101

$11101010 \Rightarrow 1's \text{ comp}$

$11101011 \Rightarrow 2's \text{ comp}$

$-10101_2 = 11101011_2$

111111101011_2

$\downarrow \quad \downarrow \quad \downarrow$
 $F \quad E \quad B$

$= \text{FEB}_{16}$

$\begin{array}{r} +21 \\ 78 \\ \hline 999 \end{array}$

978
 $\begin{array}{r} +1 \\ 979 \end{array} = 979_{10}$

$\begin{array}{cccc} 111 & 111 & 101 & 011 \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 7 & 7 & 5 & 3 \end{array} = 7753_8$

$-10101_2 = \underline{1111}11101011_2 = \text{FEB}_{16} = 7753_8 = -21_{10}$

-71_8

$\begin{array}{cc} 7 & 1 \\ \downarrow & \downarrow \\ 111 & 001 \end{array} \Rightarrow 111001_2$

$\begin{array}{r} 32 \ 16 \ 8 \ 4 \ 2 \ 1 \\ 111001 \end{array}$

$\begin{array}{r} 32 \\ +16 \\ 8 \\ \hline 57 \end{array}_{10}$

$= -57_{10}$

00111001

$11000110 \Rightarrow 1's \text{ comp}$

$11000111 \Rightarrow 2's \text{ comp}$

$\downarrow \quad \downarrow$

$C \quad 7 = \text{FC7}_{16}$

$\begin{array}{cccc} 111 & 111 & 000 & 111 \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 7 & 7 & 0 & 7 \end{array}$

$= 7707_8$

$943_{10} = -71_8 = -57_{10} = \underline{1111}11000111_2 = \text{FC7}_{16} = 7707_8$

$\begin{array}{r} 57 \\ +942 \\ \hline 999 \end{array}$

$\begin{array}{r} 942 \\ +1 \\ \hline 943 \end{array}_{10} = -57_{10}$

$-AB_{16}$

$\begin{array}{cc} A & B \\ \downarrow & \downarrow \\ 1010 & 1011 \end{array}$

$= 171_{10}$

$\begin{array}{r} 2 \\ 128 \\ +32 \\ 8 \\ \hline 171 \end{array}$

$\Rightarrow -171_{10}$

000010101011

$111101010100 \Rightarrow 1's \text{ comp}$

$111101010101 \Rightarrow 2's \text{ comp}$

$\downarrow \quad \downarrow \quad \downarrow$
 $F \quad 5 \quad 5 = \text{FF55}_{16}$

111101010101

$\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$

$7 \quad 5 \quad 2 \quad 5 = 77525_8$

$-AB_{16} = \text{FF55}_{16} = 77525_8 = -171_{10} = \underline{1111}01010101_2 = 9829_{10}$