

3. Convert -11 to binary using 8-bit, 16-bit, 32-bit and 64-bit two's complement notations. Have you encountered any of the values during the previous problems, and if so, where? Explain the reason the value coincide.

a) to binary

$$\begin{array}{r} -11 \div 2 \\ 1 \quad 5 \div 2 \\ \quad 1 \quad 2 \div 2 \\ \quad \quad 0 \quad 1 \end{array}$$

↑

-1011

b) Flip the bits

-1011

-0100

c) Add one

$$\begin{array}{r} -0100 \\ +1 \\ \hline \end{array}$$

-0101

Computers only have bits and therefore the model has to be such that does not rely on other symbols. (-)