

Suponiendo que se tienen registros de 16 bits, convertir a binario sin signo los siguientes números en base 10:

a) $123 = (0000\ 0000\ 0111\ 1011)_b$

$$\begin{aligned}123 &= 2 \cdot 61 + 1 \\61 &= 2 \cdot 30 + 1 \\30 &= 2 \cdot 15 + 0 \\15 &= 2 \cdot 7 + 1 \\7 &= 2 \cdot 3 + 1 \\3 &= 2 \cdot 1 + 1 \\1 &= 2 \cdot 0 + 1\end{aligned}$$

b) $59 = (0000\ 0000\ 0011\ 1011)_b$

$$\begin{aligned}59 &= 2 \cdot 29 + 1 \\29 &= 2 \cdot 14 + 1 \\14 &= 2 \cdot 7 + 0 \\7 &= 2 \cdot 3 + 1 \\3 &= 2 \cdot 1 + 1 \\1 &= 2 \cdot 0 + 1\end{aligned}$$

c) $255,46 = (1111\ 1111.0111\ 0101)_b$

$$255 = (1111\ 1111)_b$$

$$\begin{aligned}.46 \cdot 2 &= 0.92 \\ .92 \cdot 2 &= 1.84 \\ .84 \cdot 2 &= 1.68 \\ .68 \cdot 2 &= 1.36 \\ .36 \cdot 2 &= 0.72 \\ .72 \cdot 2 &= 1.44 \\ .44 \cdot 2 &= 0.88 \\ .88 \cdot 2 &= 1.76\end{aligned}$$

d) $98,019 = (110\ 0010.0000\ 0100\ 1)_b$

$$\begin{array}{ll}98 = 2 \cdot 49 + 0 & .019 \cdot 2 = 0.038 \\49 = 2 \cdot 24 + 1 & .038 \cdot 2 = 0.076 \\24 = 2 \cdot 12 + 0 & .076 \cdot 2 = 0.152 \\12 = 2 \cdot 6 + 0 & .152 \cdot 2 = 0.304 \\6 = 2 \cdot 3 + 0 & .304 \cdot 2 = 0.608 \\3 = 2 \cdot 1 + 1 & .608 \cdot 2 = 1.216\end{array}$$

$$1 = 2 \cdot 0 + 1$$

$$.216 \cdot 2 = 0.432$$

$$.432 \cdot 2 = 0.864$$

$$.864 \cdot 2 = 1.728$$