

Genesys
Ensayo
Julian

Ejer. 2

Arquitectura y Sist. Operativos

a) 101010

$$2 \cdot 2^5 + 1 \cdot 2^4 + 1 \cdot 2^2 + 1 \cdot 2^0 = 64 + 16 + 4 + 1 = 85$$

b) 110011 = $1 \cdot 2^5 + 1 \cdot 2^4 + 0 \cdot 2^3 + 0 \cdot 2^2 + 1 \cdot 2^1 + 1 \cdot 2^0 = 31 + 16 + 2 + 1 = 50$

d) 1111111 = $1 \cdot 2^6 + 1 \cdot 2^5 + 1 \cdot 2^4 + 1 \cdot 2^3 + 1 \cdot 2^2 + 1 \cdot 2^1 + 1 \cdot 2^0 =$

$$64 + 32 + 16 + 8 + 4 + 2 + 1 = 127$$

d) 1110 = $1 \cdot 2^3 + 1 \cdot 2^2 + 1 \cdot 2^1 + 0 \cdot 2^0 = 8 + 4 + 2 = 14$

c) 1101101110 = $1 \cdot 2^9 + 1 \cdot 2^8 + 1 \cdot 2^7 + 0 \cdot 2^6 + 1 \cdot 2^5 + 1 \cdot 2^4 + 1 \cdot 2^3 + 1 \cdot 2^2 + 0 \cdot 2^1 + 0 \cdot 2^0 =$

$$512 + 256 + 128 + 0 + 32 + 16 + 8 + 4 + 0 + 0 = 948$$

f) 10110110 = $1 \cdot 2^7 + 0 \cdot 2^6 + 1 \cdot 2^5 + 1 \cdot 2^4 + 1 \cdot 2^3 + 0 \cdot 2^2 + 1 \cdot 2^1 + 0 \cdot 2^0 =$

$$128 + 32 + 16 + 8 + 2 = 186$$

g) 111001 = $1 \cdot 2^5 + 1 \cdot 2^4 + 1 \cdot 2^3 + 0 \cdot 2^2 + 0 \cdot 2^1 + 1 \cdot 2^0 = 32 + 16 + 8 + 1 = 57$

h) 101000 = $1 \cdot 2^5 + 0 \cdot 2^4 + 1 \cdot 2^3 + 0 \cdot 2^2 + 0 \cdot 2^1 + 0 \cdot 2^0 = 32 + 8 = 40$

i) 100000001 = $1 \cdot 2^8 + 1 \cdot 2^0 = 256 + 1 = 257$

j) 1111000 = $1 \cdot 2^6 + 1 \cdot 2^5 + 1 \cdot 2^4 + 1 \cdot 2^3 + 0 \cdot 2^2 + 0 \cdot 2^1 + 0 \cdot 2^0 =$

$$64 + 32 + 16 + 8 = 120$$

k) 101012 = $1 \cdot 2^4 + 0 \cdot 2^3 + 1 \cdot 2^2 + 0 \cdot 2^1 + 1 \cdot 2^0 = 16 + 4 + 1 = 21$

l) 10212 = $1 \cdot 2^4 + 0 \cdot 2^3 + 2 \cdot 2^2 + 1 \cdot 2^1 + 2 \cdot 2^0 = 16 + 0 + 4 + 2 + 2 = 24$

Ejer 2

a) $31_{10} \rightarrow$

10000

$$\begin{array}{r} 10 \overline{) 31} \\ 0 \underline{30} \\ 0 \underline{1} \\ 0 \underline{0} \\ 0 \underline{0} \\ 0 \underline{0} \end{array}$$

b) $143_{10} \rightarrow$

10010011

$$\begin{array}{r} 02 \overline{) 143} \\ 0 \underline{14} \\ 1 \underline{13} \\ 0 \underline{13} \\ 0 \underline{12} \\ 0 \underline{1} \\ 0 \underline{0} \\ 0 \underline{0} \end{array}$$

c) $43_{10} \rightarrow$

100101011

$$\begin{array}{r} 02 \overline{) 43} \\ 0 \underline{40} \\ 1 \underline{3} \\ 0 \underline{3} \\ 0 \underline{2} \\ 0 \underline{1} \\ 0 \underline{0} \\ 0 \underline{1} \end{array}$$

d) $80_{10} \rightarrow$

101010000

$$\begin{array}{r} 02 \overline{) 80} \\ 0 \underline{80} \\ 0 \underline{20} \\ 0 \underline{10} \\ 0 \underline{5} \\ 0 \underline{2} \\ 0 \underline{0} \\ 0 \underline{0} \end{array}$$

e) $3312_{10} \rightarrow$

110101011000

$$\begin{array}{r} 02 \overline{) 3312} \\ 0 \underline{33} \\ 0 \underline{18} \\ 0 \underline{10} \\ 0 \underline{8} \\ 0 \underline{6} \\ 0 \underline{4} \\ 0 \underline{2} \\ 0 \underline{1} \\ 0 \underline{0} \\ 0 \underline{0} \\ 0 \underline{0} \end{array}$$

1110101011000

f) $145_{10} \rightarrow$

100100011

$$\begin{array}{r} 02 \overline{) 145} \\ 0 \underline{14} \\ 1 \underline{5} \\ 0 \underline{5} \\ 0 \underline{4} \\ 0 \underline{2} \\ 0 \underline{1} \\ 0 \underline{0} \\ 0 \underline{0} \end{array}$$

$$g) 4568 \text{ L}_2$$

0/

$$284 \text{ L}_2$$

0/

$$1142 \text{ L}_2$$

0/

$$571 \text{ L}_2$$

1/

$$285 \text{ L}_2$$

1/

$$142 \text{ L}_2$$

0/

$$381 \text{ L}_2$$

1/

$$1512 \text{ L}_2$$

1/

$$81 \text{ L}_2$$

0/

$$94 \text{ L}_2$$

$$\boxed{110001110110001}$$

$$h) 3200 \text{ L}_2$$

0/

$$1000 \text{ L}_2$$

0/

$$800 \text{ L}_2$$

0/

$$400 \text{ L}_2$$

0/

$$100 \text{ L}_2$$

0/

$$30 \text{ L}_2$$

0/

$$25 \text{ L}_2$$

0/

$$512 \text{ L}_2$$

1/

$$061 \text{ L}_2$$

0/

$$32 \text{ L}_2$$

$$i) 5871 \text{ L}_2$$

18

$$291 \text{ L}_2$$

07

1/

1/

$$146 \text{ L}_2$$

0/

$$73 \text{ L}_2$$

1/

$$36 \text{ L}_2$$

0/

$$18 \text{ L}_2$$

0/

$$9 \text{ L}_2$$

1/

$$4 \text{ L}_2$$

0/

$$2 \text{ L}_2$$

$$\boxed{10010010111}$$

$$j) 8672 \text{ L}_2$$

0/

$$4226 \text{ L}_2$$

0/

$$2108 \text{ L}_2$$

0/

$$1054 \text{ L}_2$$

0/

$$542 \text{ L}_2$$

0/

$$271 \text{ L}_2$$

1/

$$135 \text{ L}_2$$

1/

$$67 \text{ L}_2$$

1/

$$32 \text{ L}_2$$

0/

$$16 \text{ L}_2$$

$$16 \text{ L}_2$$

0/

$$8 \text{ L}_2$$

0/

$$4 \text{ L}_2$$

0/

$$2 \text{ L}_2$$

0/

$$\boxed{100001111000001}$$

$$k) 321 \text{ L}_2$$

1/

$$160 \text{ L}_2$$

0/

$$80 \text{ L}_2$$

0/

$$40 \text{ L}_2$$

0/

$$20 \text{ L}_2$$

0/

$$10 \text{ L}_2$$

0/

$$5 \text{ L}_2$$

0/

$$2 \text{ L}_2$$

0/

$$\boxed{10110110110}$$

