ADO 2 - Conceitos de Computação

Aluno - AFONSO CESAR LELIS BRANDÃO

1- (a) {0, 1, 2, 3, 4, 5, 6, 7̶], 8̶, 9̶}

de 0 a 7.

(b) $\begin{array}{r}10\ \underline{|7} \\ -7\ \ (1) \\ \hline (3) \end{array}$ = $\boxed{13}$

2- (a) - $1001_{10} \Rightarrow x_2$ = $\boxed{9_2}$
    $\underset{3\ 2\ 1\ 0}{}$

$1 \cdot 2^3 + 0 \cdot 2^2 + 0 \cdot 2^1 + 1 \cdot 2^0$

$8 + 0 + 0 + 1 = 9$

(b) - $489_{10} \Rightarrow x_{16}$ = $\boxed{1E9_{16}}$

$\begin{array}{r}489\ \underline{|16} \\ (9)\ \ \ 30\ \underline{|16} \\ \ \ (14)\ (1) \end{array}$ = $1'14'9 \Rightarrow 1E9$

(c) $DAD0_{16} \Rightarrow x_2$ = $11011010\ 11010000_2$

$DAD0_{16} \Rightarrow$ Decimal = $13 \cdot 16^3 + 10 \cdot 16^2 + 13 \cdot 16^1 + 0 \cdot 16^0$

$53.248 + 2560 + 208 + 0 = 56016$

$56016_{10} \Rightarrow$ Binário = $110110101101 0000$

$\begin{array}{r}56016\ \underline{|2} \\ 0\ \ \ 28008\ \underline{|2} \\ 0\ \ \ 14004\ \underline{|2} \\ 0\ \ \ 7002\ \underline{|2} \\ 0\ \ \ 3501\ \underline{|2} \\ 1\ \ \ 1750\ \underline{|2} \\ 0\ \ \ 875\ \underline{|} \\ 1\ \ \ 437 \end{array}$

$\begin{array}{r}437\ \underline{|2} \\ 1\ \ 218\ \underline{|2} \\ 0\ \ 109\ \underline{|2} \\ 1\ \ 54\ \underline{|2} \\ 0\ \ 27\ \underline{|2} \\ 1\ \ 13\ \underline{|2} \\ 1\ \ 6\ \underline{|} \\ 6\ \underline{|2} \\ 0\ \ 3\ \underline{|2} \\ 1\ \ 1 \end{array}$

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d) $BC1 \Rightarrow x_{10} = 3009$

$$11 \cdot 16^2 + 12 \cdot 16^1 + 1 \cdot 16^0 = 2816 + 192 + 1 = 3009$$

e) $10\ 100\ 110\ 111_2 \Rightarrow x_{10} = 1334$

$$1 \cdot 2^{10} + 0 \cdot 2^9 + 1 \cdot 2^8 + 0 \cdot 2^7 + 0 \cdot 2^6 + 1 \cdot 2^5 + 1 \cdot 2^4 + 0 \cdot 2^3 + 1 \cdot 2^2 + 1 \cdot 2^1 + 1 \cdot 2^0$$

$$\Rightarrow 2^{10} + 2^8 + 2^5 + 2^4 + 2^2 + 2^1 =$$

$$1024 + 256 + 32 + 16 + 4 + 2 = 1334$$

f) $011\ 01000\ 100\ 111\ 0011\ 0_2 \Rightarrow x_{16} =$

$$x_2 \Rightarrow x_{10} = 2^{17} + 2^{16} + 2^{14} + 2^{10} + 2^7 + 2^6 + 2^5 + 2^2 + 2^1 = 214\,246$$

$$\begin{array}{l}
214.246 \underline{|16} \\
\quad 6 \quad \overline{13390} \underline{|16} \\
\qquad\qquad 14 \quad \overline{836} \underline{|16} \\
\qquad\qquad\qquad 4 \quad \overline{52} \underline{|16} \\
\qquad\qquad\qquad\qquad ④ \quad 3
\end{array}$$

$$= 344E6$$