



O hexa serve para tornar o sistema binário legível para humanos

Conversão entre sistemas de numeração (conversão de base)

* Conversão Decimal \rightarrow Binário
dec \rightarrow bin

1º Método

$$\underline{99_{10}} \rightarrow \text{bin} ? = \underline{1100011_{\text{bin}}}$$

$$\begin{array}{r}
 99 \div 2 \\
 \hline
 1 \quad 49 \div 2 \\
 \hline
 1 \quad 24 \div 2 \\
 \hline
 0 \quad 12 \div 2 \\
 \hline
 0 \quad 6 \div 2 \\
 \hline
 0 \quad 3 \div 2 \\
 \hline
 1 \quad 1
 \end{array}$$

$$\begin{array}{r}
 77 \div 2 \\
 \hline
 1 \quad 38 \div 2
 \end{array}$$

$$\textcircled{0} \ 19 \ \underline{2}$$

$$\underline{1} \ 9 \ \underline{2}$$

$$\underline{1} \ 4 \ \underline{2}$$

$$\textcircled{0} \ 2 \ \underline{2}$$



$$\begin{array}{ccccccc} 2^6 & 2^5 & 2^4 & 2^3 & 2^2 & 2^1 & 2^0 \\ 1 & 0 & 1 & 1 & 0 & 0 & 1 \end{array}$$

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

$$64 + 16 + 8 + 1 = 89 \neq 77$$

$$\begin{array}{ccccccc} 2^6 & & 2^3 & 2^2 & & 2^0 \\ 1 & 0 & 0 & 1 & 1 & 0 & 1 \end{array}$$

$$\downarrow \quad \downarrow$$

$$1 \cdot 2^6 + 0 \cdot 2^5 + 8 + 4 + 1 = 77_{10}$$

$$1 \cdot 64 + 0 \cdot 32$$

$$64 + 0$$

$$499_{10} \rightarrow ?_2 = 111110011_2$$

✓

$$\begin{array}{r} 499 \ \underline{2} \\ \underline{1} \ 249 \ \underline{2} \\ \underline{1} \ 124 \ \underline{2} \\ \textcircled{0} \ 62 \ \underline{2} \\ \textcircled{0} \ 31 \ \underline{2} \\ \underline{1} \ 15 \ \underline{2} \\ \underline{1} \ 7 \ \underline{2} \\ \underline{1} \ 3 \ \underline{2} \\ \underline{1} \ \underline{1} \end{array}$$

2º Método

$$56_{10} \rightarrow \underline{\underline{b: n}}$$

$$\begin{array}{cccccc} 32 & 16 & 8 & & & \\ 2^5 & 2^4 & 2^3 & 2^2 & 2^1 & 2^0 \\ \underline{1} & \underline{1} & \underline{1} & \underline{0} & \underline{0} & \underline{0} \end{array}$$

$$\begin{array}{r} 56 \\ -32 \\ \hline 24 \\ -16 \\ \hline 8 \\ -8 \\ \hline 0 \end{array}$$

$$89_{10} \rightarrow ?_2$$

$$\begin{array}{cccccc} 32 & & & & & \\ 2^6 & 2^5 & 2^4 & 2^3 & 2^2 & 2^1 & 2^0 \\ \underline{1} & \underline{0} & \underline{1} & \underline{1} & \underline{0} & \underline{0} & \underline{1} \end{array}$$

$$\begin{array}{r} 89 \\ -64 \\ \hline 25 \\ -16 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ -8 \\ \hline 1 - 1 = 0 \end{array}$$

Conversão Binário-Decimal
bin \rightarrow dec

$$\begin{array}{cccccc} 2^5 & 2^4 & 2^3 & 2^2 & 2^1 & 2^0 \\ \underline{1} & \underline{0} & \underline{1} & \underline{1} & \underline{0} & \underline{1} \end{array}_2 \rightarrow \text{dec ?}$$

$$\begin{array}{l} \downarrow = \downarrow \quad \downarrow = \downarrow \\ 1 \cdot 2^5 + 1 \cdot 2^3 + 1 \cdot 2^2 + 1 \cdot 2^0 = \\ 1 \cdot 32 + 1 \cdot 8 + 1 \cdot 4 + 1 \cdot 1 = \end{array}$$

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Binário - Hexadecimal
bin \rightarrow hex

$\overline{000} \underline{\underline{11111}} \underline{\underline{0011}}_2$

$\underline{1} \quad \underline{F} \quad \underline{3}_{16}$

10101101010101011001₂
2 B 5 5 9 hex

00FFFFC000FFFF01AA

Conversão Hexadecimal - Binário
hex \rightarrow bin

000100100011

1 F 8 hex $\rightarrow ?_2$
1 1111 1000

FACA₁₆ \rightarrow b:n



Gabriela Sales

faca > 1111.1010.1100.1010

CA5A₁₆ \rightarrow b:n

ca5a > 1100.1010.0101.1010

$2^4 = 16$
b b dig: b
4 bits 1 hexa

Hexa no dia-a-dia

background-color: rgb(255, 255, 255);
background-color: #ffffff;
background-color: #262626;

12: wifi0: <BROADCAST,MULTICAST,UP> mtu 1500 group default qlen 1
link/ieee802.11 a0:c5:89:30:c2:76 *MAC address*
inet 192.168.99.2/28 brd 192.168.99.15 scope global dynamic
valid_lft 12511sec preferred_lft 12511sec
inet6 fe80::70de:cf7b:44d5:ad8/64 scope link dynamic *IPv6*
valid_lft forever preferred_lft forever