

# Práticas 5.0

1-

$$\begin{array}{r}
 1 \quad 2 \quad 4 \quad 8 \quad 16 \quad 32 \\
 a) \quad p \quad b) \quad f \quad d \\
 \downarrow \quad \downarrow \quad \downarrow \\
 4 \quad 5 \quad 4
 \end{array}$$

c) 129

$$\begin{array}{r}
 108 \quad 64 \quad 32 \quad 16 \quad 8 \quad 4 \quad 2 \quad 1 \\
 \frac{1}{8} \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 0 \quad 1 \\
 \quad \quad \quad p \quad \quad \quad d
 \end{array}$$

8 → 25 na tabela  
↓

$$\begin{array}{r}
 16 \quad 8 \quad 4 \quad 2 \quad 1 \quad \quad \quad 8 \quad 4 \quad 2 \quad 1 \\
 \frac{1}{1} \quad \frac{1}{1} \quad 0 \quad 0 \quad 1 \quad + \quad 0 \quad 0 \quad 0 \quad 1 \\
 256 \quad 128 \quad 64 \quad 32 \quad 16 \quad \rightarrow \text{converte-se}
 \end{array}$$

$$\begin{array}{r}
 12 \\
 256 \\
 + 128 \\
 16 \\
 1 \\
 \hline
 401 //
 \end{array}$$

$$\begin{array}{c} 3 \\ \downarrow \\ 0001 + 1001 \\ 16 \quad 8 \quad 1 \end{array}$$

25 //

$$\begin{array}{r} 191 \\ 128 \\ \hline 063 \end{array}$$

$$\begin{array}{cccc|cccc} 1 & 2 & 8 & 6 & 4 & 3 & 2 & 16 & 8 & 4 & 2 & 1 \\ & & & 0 & & 1 & & 1 & 1 & 1 & 1 & 1 \\ & & & & & & & & & & & 0 \end{array}$$

$$11 \rightarrow 2$$

$$\begin{array}{r} 10111 \\ 32 \overline{) 8421} \\ \underline{47} \end{array}$$

$$\begin{array}{r} \overset{\sim}{9}31 \\ -64 \\ \hline 29 \\ 16 \\ 13 \\ 8 \end{array}$$

$$\begin{array}{cccc|cccc} 6 & 4 & 32 & 16 & 8 & 4 & 2 & 1 \\ \frac{1}{1} & 0 & 1 & 1 & 1 & 1 & 0 & 1 \\ & \rho & & & & \phi & & \end{array}$$

$$\begin{array}{r} 10 \\ 5 \\ \hline 15 \end{array} \rightarrow \begin{array}{r} 18 \\ 18 \\ \hline 36 \end{array}$$

$$\begin{array}{r|l} \downarrow & \\ 1 & 0010 \\ 2 & \cancel{6}003\cancel{2}0 \\ & 26040 \quad 1 \\ & \underline{301} \quad , \end{array}$$

$$\bullet 93_{10} = \frac{0101}{P} \frac{1101}{D}_2$$

$$\hookrightarrow 5 = 18f$$

$$100101101_2$$

$$\underline{301}_{10}$$

$$\bullet 137_{10} = \frac{1000}{P} \frac{1001}{D}_2$$

$$\hookrightarrow 25f$$

$$110011001_2$$

$$\underline{409}_{10}$$

$$\bullet 29_{10} = \frac{0001}{P} \frac{1101}{D}_2$$

$$\hookrightarrow 7f$$

$$001111101_2$$

$$\underline{125}_{10}$$

$$12_{10} = \frac{0000}{P} \frac{1100}{D}_2$$

$$\hookrightarrow 23f$$

$$101111100_2$$

$$\underline{380}_{10}$$

$$\bullet 46 = \frac{0010}{P \rightarrow 0f} \frac{1110}{D}_2$$

$$00001110_2$$

$$\underline{14}_{10}$$

$$\bullet 20 = \frac{0001}{P \rightarrow 7f} \frac{0100}{D}$$

$$011101000_2$$

$$\underline{232}_{10}$$

$$\bullet 150 = \frac{1001}{P \rightarrow} \frac{0110}{D}$$

$$f = 14$$

$$11100110_2$$

$$\underline{230}_{10}$$

$$\bullet 20_{10} = \frac{0001}{P} \frac{0100}{D}$$

$$\hookrightarrow f = 7$$

$$001110100_2$$

$$\underline{116}_{10}$$

2- a)  $P_1 = 2$  bits  
 $P_2 = 2$  bits

$d = 4$  bits

b)  $F = 14$  "

|       |       |   |   |   |   |
|-------|-------|---|---|---|---|
|       | 16    | 8 | 4 | 2 | 1 |
| 000   | 1     | 1 | 0 | 1 | 1 |
| $P_1$ | $P_2$ | d |   |   |   |

↓ ↓  
 1 8

1000 + 1011  
 139 //

91  
 202  
 128  
 074

|       |       |    |    |   |   |   |   |
|-------|-------|----|----|---|---|---|---|
| 128   | 64    | 32 | 16 | 8 | 4 | 2 | 1 |
| 1     | 1     | 0  | 0  | 1 | 0 | 1 | 0 |
| $P_1$ | $P_2$ | d  |    |   |   |   |   |

↓  
 15  
 2

128 64 32 16 8 4 2 1  
 1 1 1 1 1 0 1 0  
 130 + 80 + 40  
 250

Handwritten notes and calculations:

- Top left:  $01110000$  (with a vertical line through it),  $01110000$ ,  $01110000$ .
- Top right:  $10110100$ ,  $10010101$ ,  $10110100$ .
- Middle left:  $00101000$ ,  $00010100$ ,  $01110100$ .
- Middle right:  $842$ ,  $1110$ ,  $46$ .
- Bottom left:  $01110100$ ,  $01110100$ .
- Bottom right:  $10010100$ ,  $10010100$ .

1011 1111  
128 3216 15  
128.63  
191

$8 \quad 4 \quad 2 \quad 1$

$\begin{array}{r} 00102\Phi \\ \hline 00000 \end{array}$

$10101010 = 84$

$64 \quad 16 \quad 4$

$$\cdot 116 = \begin{array}{ccc} 01110 & 100 & \\ \hline p1 & p2 & D \\ \downarrow & \downarrow & \\ 1 & 3 & \end{array}$$

$$f = 5 \quad 01010100 = \underline{84}$$

$$\cdot 162 = \begin{array}{ccc} 1010 & 0010 & \\ \hline p1 & p2 & D \\ 2 & 2 & \end{array}$$

$$f = 10 \quad 10100010 = \underline{162}$$

$$\cdot 229 = \begin{array}{ccc} 00 & 011101 & \\ \hline p1 & p2 & \end{array}$$

$$f = 8 \quad 10001101 = \underline{145}$$

$$12 \quad \begin{array}{ccc} 00 & 00 & 1100 \\ \hline p1 & p2 & \end{array}$$

$$f = 11 = 10111100 = \underline{188}$$

$$47 - \begin{array}{ccc} 00 & 10 & 1111 \\ \hline p1 & p2 & \end{array}$$

$$f = 4 - 01001111 = \underline{79}$$

$$\cdot 5 = \begin{array}{ccc} 00 & 00 & 0111 \\ \hline p1 & p2 & \end{array}$$

$$f = 11 \quad 10110111 = \underline{181}$$

$$\cdot 133 = \begin{array}{ccc} 10 & 00 & 0100 \\ \hline p1 & p2 & D \end{array}$$

$$f = 9 \quad 10010100 = \underline{148}$$



3 Max 4p

P tem 16 Páginas 510  
Cada Pg tem 8 end

32 16 8 4 2 1

4 - 2

P - 4

d - 3

f - 6

a)  $P_{end} = 2$

$P = 4$

$d = 3$

b)  $f = \underline{6}$

c)

431

|     |     |    |    |          |   |          |   |   |
|-----|-----|----|----|----------|---|----------|---|---|
| 256 | 128 | 64 | 32 | 16       | 8 | 4        | 2 | 1 |
| 1   | 1   | 0  | 1  | 0        | 1 | 1        | 1 | 1 |
|     |     |    |    | <u>4</u> |   | <u>d</u> |   |   |
| PID |     |    |    | P        |   |          |   |   |

$f = 32 \rightarrow 100000111$

263 //

$SIO = \frac{11}{PID} \frac{1111}{P} \frac{110}{D}$

$f = 59 \rightarrow 111011110 \rightarrow \underline{478} //$

$$\begin{array}{r} \cdot 152 - \frac{010011000}{PID} \quad \frac{P}{P} \quad \frac{D}{D} \end{array}$$

$$f = 57$$

$$111001000 = \underline{456}$$

$$\begin{array}{r} \cdot 235 - \frac{011101011}{PID} \quad \frac{P}{P} \quad \frac{D}{D} \end{array}$$

$$f = 10 \quad 001010011 = \underline{83}$$

$$\begin{array}{r} \cdot 316 \quad \frac{110111011}{PID} \quad \frac{P}{P} \quad \frac{D}{D} \end{array}$$

$$b = 29 \quad 11101011 = \underline{235H}$$

$$\begin{array}{r} \cdot 92 - \frac{001011100}{P} \quad \frac{PID}{PID} \quad \frac{P}{P} \end{array}$$

$$f = 53$$

$$110101100 \boxed{428}$$

$$\begin{array}{r} \cdot 2 \quad \frac{00000010}{PID} \quad \frac{P}{P} \quad \frac{D}{D} \end{array}$$

$$f = 16 \quad 100000010 = \boxed{130}$$

$$\begin{array}{r} \cdot 51 - \frac{000110011}{PID} \quad \frac{P}{P} \quad \frac{D}{D} \end{array}$$

$$f = 50 \quad 110010011 = \boxed{403}$$

$$\begin{array}{r} \cdot 389 - \frac{110000101}{PID} \quad \frac{P}{P} \quad \frac{D}{D} \end{array}$$

$$f = 39 \quad \text{~~10001001~~}$$

$$100111100$$

$$\underline{317H}$$