

EX 1

$$m = 1110 \ 1111 \ 8 \text{ bits}$$

$$m+1 \quad \begin{array}{cc} & 1 \ 1 \ 1 \ 1 \\ 1 \ 1 \ 1 \ 0 & 1 \ 1 \ 1 \ 1 \\ & 1 \end{array}$$

$$m+1 \quad \boxed{1 \ 1 \ 1 \ 1 \ 0 \ 0 \ 0 \ 0}$$

$$m+2 \quad \boxed{1 \ 1 \ 1 \ 1 \ 0 \ 0 \ 0 \ 1}$$

$$m+3 \quad \boxed{1 \ 1 \ 1 \ 1 \ 0 \ 0 \ 1 \ 0}$$

EX 2 $m \ 1 \ 6 \ e$

$$\begin{array}{|l|l|} \hline m+1 & 1 \ 6 \ f \\ m+2 & 1 \ c \ \phi \\ m+3 & 1 \ c \ 1 \\ \hline \end{array}$$

EX 3

$$\begin{array}{c} 1 \ 0 \ 1 \ 1 \\ 1 \ 0 \ 1 \ 1 \end{array} \rightarrow (11)_{10}$$

$$1111 \ 1111 \ 1111 \ 1111 = 2^{16} - 1$$

EX 4

$$1 \ f \ f = 1 \times 256 + 15 \times 16 + 15 \times 1$$

$$\begin{array}{r} 1 \ 1 \ 1 \\ 256 \ 16 \ 0 \end{array} \quad \begin{array}{r} 1 \ 1 \\ 256 \\ 240 \\ 15 \end{array}$$

$$\boxed{511}$$

Ex 6

$$''S'' = \$53 = (0101 \ 0011)_2$$

$$'S = \$73 = (0111 \ 0011)_2$$

Ex 7

$$10,375 \rightarrow (1010) : 10$$

$$0,375 \times 2 = 0,750$$

$$0,750 \times 2 = 1,50$$

$$0,5 \times 2 = 1, -$$

$$(10,375) = (1010,011)_2$$

$$16,250 \rightarrow (10000) : 16$$

$$0,250 \times 2 = 0,5$$

$$0,5 \times 2 = 1$$

$$(16,250) = (10000,01)$$

$$\begin{array}{r} 98 \\ 32 \ 16 \\ 62 \ 64 \ 68 \\ 4 \ 2 \ 1 \end{array}$$

Ex 8

$$\begin{array}{r} 75 \mid 2 \\ 1 \mid 37 \mid 2 \\ 1 \mid 18 \mid 2 \\ 0 \mid 9 \mid 2 \\ 1 \mid 4 \mid 2 \\ 1 \mid 2 \mid 2 \\ 0 \mid * \mid 2 \\ 1 \mid * \end{array}$$

EX5

128	64	32	16	8	4	2	1
0	0	1	0	1	1	1	1

$$\begin{array}{r}
 47 \\
 - 32 \\
 \hline
 15 \\
 - 8 \\
 \hline
 7 \\
 - 4 \\
 \hline
 3
 \end{array}$$

$$(00101111)_2$$

$$\begin{array}{r}
 47 \overline{) 2} \\
 \underline{A} 23 \overline{) 2} \\
 \underline{A} 11 \overline{) 2} \\
 \underline{1} 5 \overline{) 2} \\
 \underline{1} 2 \overline{) 2} \\
 \underline{1} 1 \overline{) 2} \\
 \underline{1} 0 \overline{) 1} \\
 \underline{1} 7 \overline{) 7} \\
 \underline{1} x
 \end{array}$$

00101111

$$\begin{array}{r}
 75 \mid 2 \\
 1 \mid 37 \\
 1 \mid 18 \\
 0 \mid 9 \\
 1 \mid 4 \\
 0 \mid 2 \\
 0 \mid 1 \\
 1 \mid x
 \end{array}$$

$$\begin{array}{r}
 64 \ 32 \ 16 \quad 8 \ 4 \ 2 \ 1 \\
 1 \ 0 \ 0 \quad 1 \ 0 \ 1 \ 1 \\
 72 \quad 74 \ 75
 \end{array}$$

$$\begin{array}{r}
 60 \mid 2 \\
 0 \mid 30 \\
 0 \mid 15 \\
 1 \mid 7 \\
 1 \mid 3 \\
 1 \mid 1 \\
 1 \mid 1 \\
 56 \quad 60 \\
 48 \\
 32 \ 16 \quad 8 \ 4 \\
 (0011 \quad 1100)
 \end{array}$$

$$\begin{array}{r}
 C1 \quad 1100 \quad 0011 \\
 +1 \\
 \hline
 1100 \quad 0100
 \end{array}$$

$$(+75) = (0100 \ 1011)_{C2}$$

$$+ \quad (-60 \quad 1100 \ 0100)$$

$$110000 \ 1111 \quad (+15)$$

$$\begin{array}{r}
 8 \ 4 \ 2 \ 1 \\
 \hline
 12 \\
 \hline
 14 \\
 \hline
 15
 \end{array}$$

$$17 = 10001$$

$$17 = 1,0001 \times 2^4$$

exponent

4

mantissa

0001

$$4 + 127 = 131 \Rightarrow 128 + 2 + 1$$

10000011

$$0 \quad 1000 \quad 0011 \quad \overset{4}{\overbrace{0001}} \quad \overset{13}{\overbrace{0 \quad \quad \quad 0}}$$