

$$g(x) = 1 + x + x^3 \quad C(7,4) \quad (n-k)=3$$

$$D_1 = (1010) = 1 + x^2$$

$$D_1 \cdot x^3 = x^3 + x^5$$

Divisão binária

→ somam-se os expoentes

→ não usa sinais

→ sem transporte

→ aritmética módulo 2

contam-se os termos correspondentes

$$\begin{array}{r} x^5 + x^3 \\ x^5 \quad x^3 \quad x^2 \quad x^2 \\ \hline x^2 \end{array} \quad \begin{array}{r} x^3 + x + 1 \\ x^3 \\ \hline x + 1 \end{array}$$

→ resto $(x^0 \ x^1 \ x^2)$

→ polinômio de grau $(n-k-1)$

CRC

001	1010
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$$D_2 = (1100) = 1 + x$$

$$D_2 \cdot x^3 = x^3 + x^4$$

$$\begin{array}{r} x^4 + x^3 \\ x^4 \quad x^2 \quad x \quad x + 1 \\ \hline x^2 + 1 \end{array} \quad \begin{array}{r} x^3 + x + 1 \\ x^3 \\ \hline x + 1 \end{array}$$

resto (101)

sem sinal

$$\begin{array}{r} x^4 \quad x^3 \quad x^2 + x + 1 \\ x^4 \quad x^2 + x + 1 \\ \hline \end{array}$$

101	1100
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palavra de código

b) $C = 0110101$

$$x + x^2 + x^4 + x^6$$

$$\begin{array}{r} x^6 + x^4 + x^2 + x \\ x^6 \quad x^4 \quad x^3 \\ \hline x^2 + x + 1 \end{array} \quad \begin{array}{r} x^3 + x + 1 \\ x^3 + 1 \\ \hline x + 1 \end{array}$$

resto (101) ERRADO

$C = 0011010$

$$x^2 + x^3 + x^5$$

$$\begin{array}{r} x^5 + x^3 + x^2 \\ x^5 \quad x^3 \quad x^2 \\ \hline 0 \end{array} \quad \begin{array}{r} x^3 + x + 1 \\ x^2 \\ \hline \end{array}$$