Problem 10.19. Encode the sequence 1101 with a Hamming (7,4) block code.

Solution

Coded bit sequence $\mathbf{c} = \mathbf{x} \cdot \mathbf{G}$, where **G** is defined by (10.89).

$$\mathbf{c} = [1101] \cdot \begin{bmatrix} 1000101 \\ 0100111 \\ 0010110 \\ 0001011 \end{bmatrix}$$
$$= [1101001]$$

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