Quiz 4
Algebraic Coding Theory
Math 525
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Problem 1: Consider the set

$$S = \{0011010, 1010110, 0000011, 1010101\}$$

of words in K^7.

(a) Calculate the dimension of the code $C = <S>$

Notice the dimension of the code C is 4.

(b) Find a basis for $C^\perp$, the dual of C The basis of $C^\perp$ is:

$$H = \begin{bmatrix} 0 & 0 & 0 \\ 1 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 1 & 1 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$