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Es 1

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

$$G = \left[\begin{array}{cc|ccccccc} 1 & 0 & 1 & 1 & 0 & 1 & 1 & 0 & 1 \\ 0 & 1 & 1 & 0 & 1 & 1 & 0 & 1 & 1 \end{array}\right]$$ In a systematic shape

$N = 9$

$K = 2$

$g(D) = D^7 + D^6 + D^4 + D^3 + D + 1 =$

$= (D^6 + D^3 + 1)(D + 1)$

Is this a cyclic code?

$r\left\{\dfrac{D^N+1}{g(D)}\right\} = 0$

$D^9 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 1 \;|\; D^7 + D^6 + D^4 + D^3 + D + 1$

$D^9 + D^8 + 0 + D^6 + D^5 + 0 + D^3 + D^2 + 0 + 0 \qquad D^2 + D + 1$

$0 + D^8 + 0 + D^6 + D^5 + 0 + D^3 + D^2 + 0 + 1$

$D^8 + D^7 + 0 + D^5 + D^4 + 0 + D^2 + D + 0$

$0 + D^7 + D^6 + 0 + D^4 + D^3 + 0 + D + 1$

$D^7 + D^6 + 0 + D^4 + D^3 + 0 + D + 1$

0

yes, it is a cyclic code

possible codewords $2^k = 4$ possible codeword

m	$\bar{X}$	w
00	00 0000000	—
01	01 1011011	6
10	10 1101101	6
11	11 0110110	6

$d_{min} = 6$

V