

1)

HEX

$$\begin{array}{r} 0 \\ 17 \overline{6} 11 \\ 41 \overline{1} 12 \\ \hline 3 \end{array}$$

 $b_3 \ b_2 \ b_1 \ b_0$

	0	1	2	3	4	5	6
0	0	0	0	0	0	0	1
1	1	0	0	1	1	1	1
2	0	0	1	0	0	1	0
3	0	0	0	0	1	1	0
4	1	0	0	1	1	0	0
5	0	1	0	0	1	0	0
6	1	1	0	0	0	0	0
7	0	0	0	1	1	1	1
8	0	0	0	0	0	0	0
9	0	0	0	1	1	0	0

$$0: \quad 6$$

$$1: \quad 0, 3, 4, 5, 6$$

$$2: \quad 2, 5$$

$$3: \quad 4, 5$$

$$4: \quad 0, 3, 4$$

$$5: \quad 1, 4$$

$$6: \quad 0, 1$$

$$7: \quad 3, 4, 5, 6$$

$$8: \quad$$

$$9: \quad 3, 4$$

$$0 \ 0 \ 0 \ 0$$

$$0 \ 0 \ 0 \ 1$$

$$0 \ 0 \ 1 \ 0$$

$$0 \ 0 \ 1 \ 1$$

$$0 \ 1 \ 0 \ 0$$

$$0 \ 1 \ 0 \ 1$$

$$0 \ 1 \ 1 \ 0$$

$$0 \ 1 \ 1 \ 1$$

$$1 \ 0 \ 0 \ 0$$

$$1 \ 0 \ 0 \ 1$$

 $H(X(0))$

$b_3, b_2 \backslash b_1, b_0$	00	01	11	10
00		1		
01	1			
11				
10			1	

$$\bar{b}_3 \bar{b}_2 \bar{b}_1 b_0 + \bar{b}_3 b_2 \bar{b}_0$$

 $H(X(1))$

$b_3, b_2 \backslash b_1, b_0$	00	01	11	10
00				
01		1		
11				
10			1	

$$\bar{b}_3 b_2 (\bar{b}_1 b_0 + b_1 \bar{b}_0)$$

HX(2)

$b_1 b_0 \backslash b_3 b_2$	00	01	11	10
00				
01				
11				
10	1			

$$\bar{b}_3 \bar{b}_2 b_1 \bar{b}_0$$

HX(3)

$b_1 b_0 \backslash b_3 b_2$	00	01	11	10
00		1 D		
01	1		D	1
11		1 D		D
10			D	D

$$\begin{aligned} & \bar{b}_2 \bar{b}_1 b_0 + b_2 \bar{b}_1 \bar{b}_0 + b_2 b_1 b_0 \\ &= \bar{b}_1 (\bar{b}_2 b_0 + b_2 \bar{b}_0) + b_2 b_1 b_0 \end{aligned}$$

HX(4)

$b_1 b_0 \backslash b_3 b_2$	00	01	11	10
00		1 D		
01	1	1 D		1
11	1	1 D		D
10			D	D

$$\begin{aligned} & \bar{b}_3 b_0 + b_2 \bar{b}_1 + b_3 b_0 \\ &= b_0 + b_2 \bar{b}_1 \end{aligned}$$

Hx(5)

$b_3 b_2$ \ $b_1 b_0$	00	01	11	10
00			D	
01	1		D	
11	1	1	D	D
10	1		D	D

$$\bar{b}_3 \bar{b}_2 b_0 + \bar{b}_3 \bar{b}_2 b_1 + \bar{b}_3 b_1 b_0$$

Hx(6)

$b_3 b_2$ \ $b_1 b_0$	00	01	11	10
00	1			
01	1			
11		1	D	
10				

$$\bar{b}_3 \bar{b}_2 \bar{b}_1 + b_2 b_1 b_0$$