

1. 至少  $\lceil \log_2 51 \rceil = 6$ 。这些位最多表示  $2^6 = 64$  名

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8 bit = 进制:  $(\underline{0011} \underline{0011})_2$

十六进制:  $(33)_{16}$

BCD :  $(\underline{0101} \underline{0001})_{8421}$

-29 8位补码:

$(\underline{1} \ 1 \ 1 \ 0 \ 0 \ 0 \ 1 \ 1)_2$

-128 64 32 16 8 4 2 1

BCD码下  $51+29$ :

$$\begin{array}{r} 01010001 \\ + 00101001 \\ \hline 01111010 \rightarrow \text{溢出} \\ + \quad \quad 0110 \\ \hline 10000000 = 80 \end{array}$$

$$3. 1) \quad X'(X+1) = (X' \cdot X) + (X' \cdot 1) = 0 + X' = X' \Rightarrow X+1 = 1$$

$$2) \quad X + XY = (X \cdot 1) + (X \cdot Y) = X \cdot (1 + Y) = X \cdot 1 = X$$

4. ABCD f(A,B,C,D)

0	0000	→ 0
1	0001	→ 0
2	0011	→ 0
3	0010	→ 0
4	0110	→ 0
5	0111	→ 1
6	0101	→ 1
7	0100	→ 1
8	1100	→ 1
9	1101	→ 1
10	1111	→ 0
11	1110	→ 0
12	1010	→ 0
13	1011	→ 0
14	1001	→ 0
15	1000	→ 0