

第一章练习

1. $[57.23]_{10} = [111001.0001]_2$ (精度为 1%)

$$\begin{matrix} 0.23 \times 2 = 0.46 & \times 2 = 0.92 \times 2 = 1.84 \\ b^{-1}=0 & b^{-2}=0 & b^{-3}=0 & b^{-4}=1 \end{matrix}$$

2. 将下列数转换为十进制数:

$$(101011.110)_2, (73.2)_8; (3E5.6D)_{16}$$

$$(43.75)_D; (59.25)_D; (997.109)_D$$

3. 将下列数转换为十进制数:

$$(100011.1101)_2; (43.2)_8; (1E5.F)_{16}$$

$$(35.8125)_D; (35.25)_D; (485.15)_D$$

4. 将下列数转换为十进制数:

$$(101011.110)_2; (103.2)_8; (1E5.6D)_{16}$$

$$(43.75)_D; (167.25)_D; (485.109)_D$$

5. $[150.23]_{10} = []_2$ (精度为 1%) 1000111.0011101
 $0.01 \rightarrow 2^{-2}$

6. 请将下列各数按从大到小的顺序依次排列:

$$(246)_8; (165)_{10}; (10100111)_2; (A4)_{16}$$

$$(166)_{10} \quad (167)_{10} \quad (164)_{10} \quad (10100111)_2 > (246)_8 > (165)_{10} > (A4)_{16}$$

7. $(80.125)_{10} = (50.7D)_{16}$

8. 将二进制数 $(101010)_2$ 转换称八、十、十六进制数。

$$(101010)_2 = (52)_{10} = (42)_8 = (2A)_{16}$$

9. $[255.2]_{10} = [00100101.0010]_{8421BCD}$

10. $(257)_{10} = (100000001)_2 = (101)_{16} = (001001010111)_{8421BCD}$
 256

11. $[10001000]_2 = [000100110110]_{8421BCD}$
 $= (136)_D$

12.

已知 $[X]_{补} = 10011001 \rightarrow 10011000$

则 $[X]_{原} = [11100111] \quad X = [-1100111]$

13.

已知 $[X]_{补} = 1100110011001011$

则 $[X]_{原} = [10110100] \quad X = [-110100]$

14. (1) 已知 $[X]_{补} = 111110011111000$

则 $[X]_{原} = [10000111] \quad X = [-311]$

15. 指出下列逻辑函数中 A, B, C 取哪些值时, F=1。

(1) $F(A, B, C) = AB + \overline{A}\overline{C}$ $A=1, B=1; A=0, C=0$

(2) $F(A, B, C) = \overline{A+B}\overline{C}$ $A=0, B=1, C=0$

$$A+B=1$$

$$\overline{A+B}\overline{C}=1$$

→ 补. 原码不考

16. 指出下列逻辑函数中 A, B, C 取哪些值时, F=1。

(1) $F(A, B, C) = \overline{A}B + A\overline{C}$ (2) $F(A, B, C) = \overline{A + \overline{B}C}(A + C)$

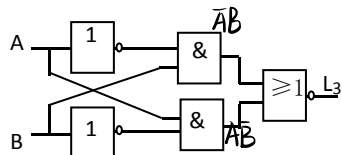
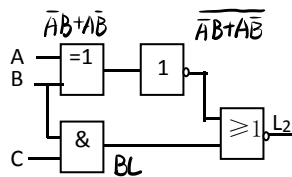
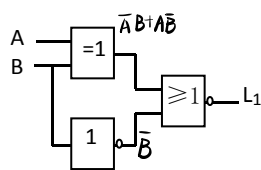
(1) $A=0, B=1; A=1, C=0$ (2) $A=0, B=0, C=1$

17. 指出下列逻辑函数中 A, B, C 取哪些值时, F=1。

(1) $F(A, B, C) = AB + A\overline{C}$

$A=1, B=1; A=1, C=0$

18. 分析附图所示电路的逻辑功能, 写出各逻辑函数表达式。



$L_1 = \overline{AB + AB} + \overline{B} = \overline{AB} + \overline{B}$

$L_2 = \overline{\overline{AB + AB}} + \overline{B}C$

$L_3 = \overline{AB} + \overline{AB}$