

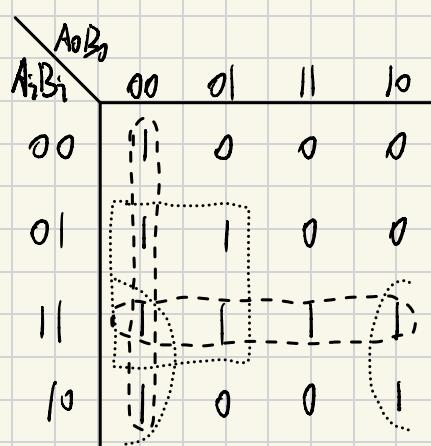
大作业 (-)

设输血的两位为 $A_0 B_0$, 受血的两位为 $A_i B_i$
则根据现有条件得到真值表

A_0	B_0	A_i	B_i	F
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	0
0	1	0	1	1
0	1	1	0	0
0	1	1	1	1
1	0	0	0	0
1	0	0	1	0
1	0	1	0	1
1	0	1	1	1
1	1	0	0	0
1	1	0	1	0
1	1	1	0	0
1	1	1	1	1

$$F = \sum m(0, 1, 2, 3, 5, 7, 10, 11, 15)$$

卡诺图如下



根据卡诺图

$$\begin{aligned} F &= \overline{A_0} \overline{B_0} + A_i B_i + \overline{A_0} B_i + \overline{B_0} A_i \\ &= \overline{\overline{A_0} \overline{B_0}} \cdot \overline{A_i B_i} \cdot \overline{\overline{A_0} B_i} \cdot \overline{\overline{B_0} A_i} \end{aligned}$$

