

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

$A_0 B_0 \backslash A_i B_i$		00	01	11	10
00		1	0	0	0
01		1	1	0	0
11		1	1	1	1
10		1	0	0	1

根据卡诺图

$$\begin{aligned}
 F &= \bar{A}_0 \bar{B}_0 + A_i B_i + \bar{A}_0 B_i + \bar{B}_0 A_i \\
 &= \overline{\bar{A}_0 \bar{B}_0 \cdot \bar{A}_i \bar{B}_i \cdot \bar{A}_0 B_i \cdot \bar{B}_0 A_i}
 \end{aligned}$$

