

53/

$$f_3(0,0,1) = f_3(0,1,0) = f_3(1,1,0) = 0$$

x	y	z	$f(x,y,z)$	
0	0	0	1	$m_0$
1	0	0	1	$m_1$
2	0	1	0	$m_2$
3	0	1	1	$m_3$
4	1	0	1	$m_4$
5	1	0	1	$m_5$
6	1	1	0	$m_6$
7	1	1	1	$m_7$

$\Rightarrow f(x,y,z) = m_0 \vee m_3 \vee m_4 \vee m_5$

DCP

$$\left. \begin{aligned} m_0 &= x\bar{y}\bar{z} \\ m_3 &= x\bar{y}z \\ m_4 &= \bar{x}y\bar{z} \\ m_5 &= \bar{x}yz \\ m_7 &= xyz \end{aligned} \right\} \text{minterms}$$

$$S_{f1} = \{ (0,0,0), \overset{(0,1,1)}{\cancel{(0,1,0)}}, (1,0,0), (1,0,1), (1,1,1) \}$$

	x	y	z	
I	0	0	0	$m_0$
III	0	1	1	$m_3$
II	1	0	0	$m_4$
III	1	0	1	$m_5$
IV	1	1	1	$m_7$

Group	x	y	z	
<u>I</u>	0	0	0	$m_0$
<u>II</u>	1	0	0	$m_4$
<u>III</u>	0	1	1	$m_3$
	1	0	1	$m_5$
<u>IV</u>	1	1	1	$m_7$

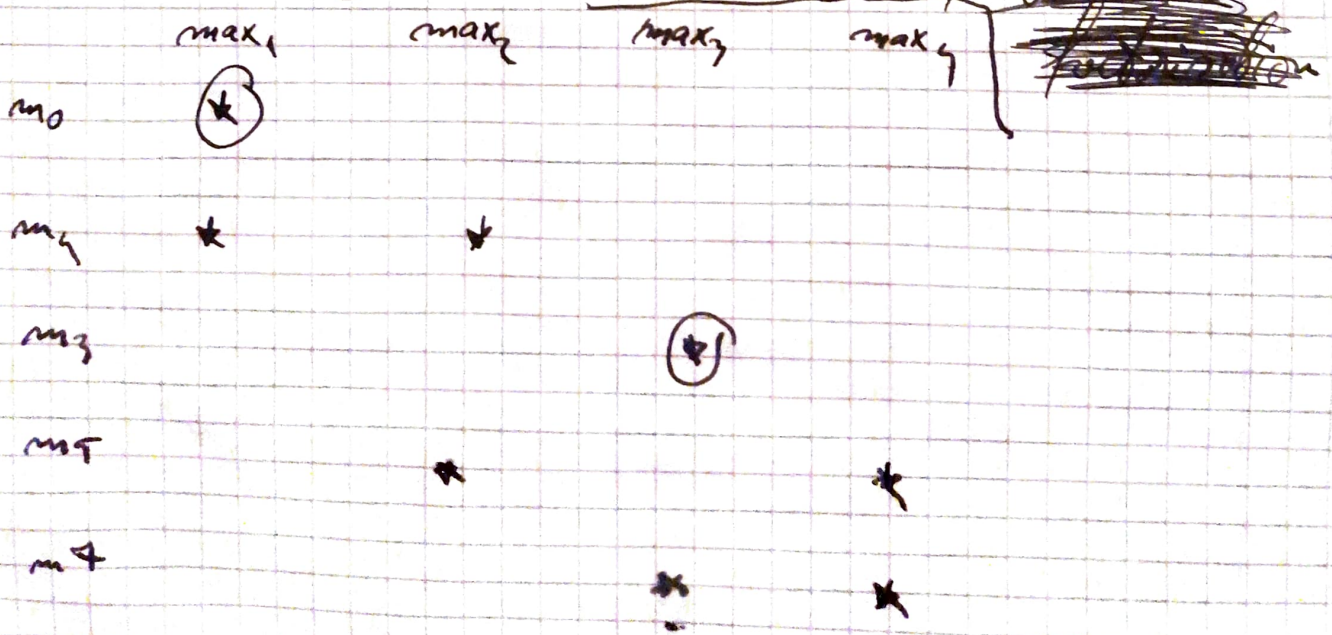
~~do not factorise!~~

$$\begin{aligned}
 \underline{V} &= \underline{I} + \underline{II} & \begin{bmatrix} - & 0 & 0 \\ 1 & 0 & - \end{bmatrix} & \begin{matrix} m_0 \vee m_4 = \bar{y}\bar{z} = \max_1 \\ m_4 \vee m_5 = x\bar{y} = \max_2 \end{matrix} \\
 \underline{VI} &= \underline{II} + \underline{III} & \begin{bmatrix} - & - & - \\ 1 & 0 & - \end{bmatrix} & \\
 \underline{VII} &= \underline{III} + \underline{IV} & \begin{bmatrix} - & 1 & 1 \\ 1 & - & 1 \end{bmatrix} & \begin{matrix} m_3 \vee m_7 = yz = \max_3 \\ m_5 \vee m_7 = xz = \max_4 \end{matrix}
 \end{aligned}$$

do not factorise!

$$M_{(y)} = \{ \max_1, \max_2, \max_3, \max_4 \}$$

~~cannot directly apply double~~





$$C_{y1} = \{ \max_1, \max_3 \}$$

$$M_{y1} \neq C_{y1} \quad C_{y1} \neq \emptyset$$

$\Downarrow$

$$g(x, y, z) = \max_1 \vee \max_3 = \overline{yz} \vee yz$$

$$h_1(x, y, z) = \max_2 = x\overline{y}$$

$$h_2(x, y, z) = \max_4 = xy$$

$$f_1^s = g(x, y, z) \vee h_1$$

$$f_1^s = \overline{yz} \vee yz \vee x\overline{y}$$

$$x f_2^s = g(x, y, z) \vee h_2$$

$$f_2^s = \overline{yz} \vee yz \vee xy$$