$$f(x_1, x_2, x_3) = \overline{x_1}\, x_2\, \overline{x_3} \vee x_1\, \overline{x_2}\, \overline{x_3} \vee \overline{x_1}\, x_2 x_3 \vee$$
$$\vee\, x_1\, \overline{x_2}\, x_3 \vee x_1\, x_2\, \overline{x_3} =$$
$$= m_2 \vee m_4 \vee m_6 \vee m_3 \vee m_5$$

descending order $\Rightarrow S_f = \{ \overset{m_4}{(1,0,0)}, \overset{m_2}{(0,1,0)}, \overset{m_6}{(1,1,0)}, \overset{m_5}{(1,0,1)}, \overset{m_3}{(0,1,1)} \}$

Group	x_1	x_2	x_3	
I	1	0	0	m_4
	0	1	0	m_2
II	1	1	0	m_6
	1	0	1	m_5
	0	1	1	m_3
I + II	1	–	0	$m_4 \vee m_6 = x_1 \overline{x_3} = max_1$
	0	1	–	$m_2 \vee m_3 = \overline{x_1}\, x_2 = max_2$
	1	0	–	$m_4 \vee m_5 = x_1 \overline{x_2} = max_3$
	–	1	0	$m_2 \vee m_6 = x_2 \overline{x_3} = max_4$

$M(f) = \{max_1, max_2, max_3, max_4\} =$

$= \{x_1 \overline{x_3}, \overline{x_1} x_2, x_1 \overline{x_2}, x_2 \overline{x_3}\}$

maxterms monoms / minterms	max1	max2	max3	max4
m_4	*		*	
m_2		*		*
m_6	*			*
m_5			*	
m_3		*		

$C(f) = \{max_2, max_3\} = \{\overline{x_1} x_2, x_1 \overline{x_2}\}$

$M(f) = \{max_1, max_2, max_3, max_4\} = \{x_1 \overline{x_3}, \overline{x_1} x_2,$
$x_1 \overline{x_2}, x_2 \overline{x_3}\}$

$M(f) \neq C(f)$ and $C(f) \neq 0 \Rightarrow$ the second case of simplification alg.

$g(x_1, x_2, x_3) \overset{not}{=} max_2 \vee max_3 = \overline{x_1} x_2 \vee x_1 \overline{x_2}$

Choose $h(x_1, x_2, x_3)$ as simple as possible $\rightarrow$
to cover m_6 uncovered by $g(x_1, x_2, x_3)$
Can choose max_1 or max_4 $\Rightarrow$ two simplified forms of f are obtained

$$f_1^s(x_1, x_2, x_3) = g(x_1, x_2, x_3) \vee h(x_1, x_2, x_3) =$$

$$= max_2 \vee max_3 \vee max_1 = \bar{x}_1 x_2 \vee x_1 x_2 \bar{x}_3$$

$$f_2^s(x_1, x_2, x_3) = -\;''\;- = \bar{x}_1 x_2 \vee x_1 \bar{x}_2 \vee x_2 \bar{x}_3$$