令 $y = -z$ $\min(z) = -\max(y)$

$y = -x_1 + (-x_2) + (-x_3)$

$2x_1 + 7.5x_2 + 3x_3 - x_4 = 10000$

$20x_1 + 5x_2 + 10x_3 - x_5 = 30000$

$x_1, x_2, x_3, x_4, x_5 \geq 0$

$$\Downarrow$$

令 $u = y + \overset{5000}{\cancel{10000}}$ $\max(y) = \max(u) - \cancel{10000}\ 5000$

$x_1 + \dfrac{15}{4}x_2 + \dfrac{3}{2}x_3 - \dfrac{x_4}{2} = 5000$

$x_5 + 70x_2 + 20x_3 - 10x_4 = 70000$

$u = \dfrac{11}{4}x_2 + \dfrac{1}{2}x_3 - \dfrac{1}{2}x_4$

		x_2	x_3	x_4
u	0	$\frac{11}{4}$	$\frac{1}{2}$	$-\frac{1}{2}$
x_1	5000	$\cancel{}\ \frac{15}{4}$	$\cancel{}\ \frac{3}{2}$	$\cancel{}\ -\frac{1}{2}$
x_5	70000	70	20	-10

入基: $x_2 = \dfrac{11}{4}$

$\min\left\{\dfrac{5000}{\left(\frac{15}{4}\right)}, \dfrac{70000}{70}\right\} = 1000$ 离基: x_5

$u = 2750 - \dfrac{11}{280}x_5 - \dfrac{2}{7}x_3 - \dfrac{3}{28}x_4$

$x_2 = 1000 - \dfrac{1}{70}x_5 - \dfrac{2}{7}x_3 + \dfrac{1}{7}x_4 \Rightarrow x_2 + \dfrac{1}{70}x_5 + \dfrac{2}{7}x_3 - \dfrac{1}{7}x_4 = 10$

$x_1 - \dfrac{3}{56}x_5 + \dfrac{3}{7}x_3 + \dfrac{1}{28}x_4 = 1250$

		x_5	x_3	x_4
u	2750	$-\frac{11}{220}$	$-\frac{2}{7}$	$-\frac{3}{28}$
x_1	1000	$\frac{1}{70}$	$\frac{2}{7}$	$-\frac{1}{7}$
x_2	1250	$-\frac{3}{56}$	$\frac{3}{7}$	$\frac{1}{28}$

$\therefore \max(u) = 2750$

$\max(y) = -2250$

$\min(z) = 2250$

最优解为 $(1000, 1250, 0)$