Example 1: Maximize $z = x + 2y$ subject to

$$\begin{aligned} 0.2\,x + 0.6\,y &\le 3000 \\ 0.8\,x + 0.4\,y &\le 5000 \\ x,\, y &\ge 0 \end{aligned}$$

	x	y	u	v	
u	0.2	0.6	1	0	3000
v	0.8	0.4	0	1	5000
	−1	−2	0	0	0

u and v are slack variables.
Initial tableau: y enters, u leaves

	x	y	u	v	
y	1/3	1	5/3	0	5000
v	2/3	0	−2/3	1	3000
	−1/3	0	10/3	0	10000

Next tableau: x enters, v leaves

	x	y	u	v	
y	0	1	2	−0.5	3500
x	1	0	−1	1.5	4500
	0	0	3	0.5	11500

Final tableau: optimal solution $x = 4500$, $y = 3500$, $z = 11500$

Example 2: Minimize $z = -10x_1 + 5x_2 - 3x_3$ subject to

$$\begin{aligned} x_1 + 2\,x_2 - x_3 &\le 8 \\ -3\,x_1 + 3\,x_2 + x_3 &\le 12 \\ 3\,x_1 + 5\,x_2 - 2\,x_3 &\le 20 \\ x_1,\, x_2,\, x_3 &\ge 0 \end{aligned}$$

	x_1	x_2	x_3	u_1	u_2	u_3	
u_1	1	2	−1	1	0	0	8
u_2	−3	3	1	0	1	0	12
u_3	3	5	−2	0	0	1	20
	−10	5	−3	0	0	0	0

Initial tableau: maximize $z' = -z$.
x_1 enters, u_3 departs

	x_1	x_2	x_3	u_1	u_2	u_3	
u_1	0	1/3	−1/3	1	0	−1/3	4/3
u_2	0	8	−1	0	1	1	32
x_1	1	5/3	−2/3	0	0	1/3	20/3
	0	65/3	−29/3	0	0	10/3	200/3

Final tableau: the problem is unbounded (x_3 column)

Example 3: Minimize $z = 3x - 8y$ subject to

$$\begin{aligned} 4\,x - 5\,y &\ge -2 \\ 6\,x + y &\le 12 \\ x,\, y &\ge 0 \end{aligned}$$

	x	y	u	v	
u	−4	5	1	0	2
v	6	1	0	1	12
	3	−8	0	0	0

Initial tableau; maximize $z' = -z$.
y enters, u departs.

	x	y	u	v	
y	−0.8	1	0.2	0	0.4
v	6.8	0	−0.2	1	11.6
	−3.4	0	1.6	0	3.2

Next tableau; x enters,
v departs.

	x	y	u	v	
y	0	1	3/17	2/17	30/17
x	1	0	−1/34	5/34	29/17
	0	0	3/2	1/2	9

Final tableau. Optimal solution is $x = 29/17$, $y = 30/17$, $z' = 9$, so $z = -9$.
