

$Z = (3 + \delta_1)x_1 + 2x_2$
 Other constraints as before.

BASIC	Z	x_1	x_2	s_1	s_2	s_3	s_4	SOLUTION
Z	1	$-(3 + \delta_1)$	-2	0	0	0	0	0
s_1	0	1	2	1	0	0	0	6
s_2	0	2	1	0	1	0	0	8
s_3	0	-1	1	0	0	1	0	1
s_4	0	0	1	0	0	0	1	2

BASIC	Z	x_1	x_2	s_1	s_2	s_3	s_4	SOLUTION
Z	1	0	$-\frac{1}{2} + \frac{\delta_1}{2}$	0	$(3 + \delta_1)/2$	0	0	$12 + 4\delta_1$
s_1	0	0	$\frac{3}{2}$	1	$-\frac{1}{2}$	0	0	2
x_1	0	1	$\frac{1}{2}$	0	$\frac{1}{2}$	0	0	4
s_3	0	0	$\frac{3}{2}$	0	$\frac{1}{2}$	1	0	5
s_4	0	0	1	0	0	0	1	2

BASIC	Z	x_1	x_2	s_1	s_2	s_3	s_4	SOLUTION
Z	1	0	0	$\frac{1}{3} - \frac{\delta_1}{3}$	$\frac{4}{3} + \frac{2}{3}\delta_1$	0	0	$12\frac{2}{3} + (10/3)\delta_1$
x_2	0	0	1	$\frac{2}{3}$	$-\frac{1}{3}$	0	0	$\frac{4}{3}$
x_1	0	1	0	$-\frac{1}{3}$	$\frac{2}{3}$	0	0	$\frac{10}{3}$
s_3	0	0	0	-1	1	1	0	3
s_4	0	0	0	$-\frac{2}{3}$	$\frac{1}{3}$	0	1	$\frac{2}{3}$

THIS IS THE OPTIMUM IF $\frac{1}{3} - \frac{\delta_1}{3} \geq 0 \Rightarrow \delta_1 \leq 1$
 $\frac{4}{3} + \frac{2}{3}\delta_1 \geq 0 \Rightarrow \delta_1 \geq -2$

THESE IMPLY THAT COEF. OF x_1 CAN RANGE FROM $3 - 2$ TO $3 + 1$; i.e. $1 \leq c_1 \leq 4$.

HENCE IF c_1 STAYS IN THIS LIMIT THEN THE OPTIMUM REMAINS AT E (SEE PREVIOUS FIGURE).