24/07/21

Step 6: Transition from first table to second Table.

		7	5	0	0
		x_1	x_2	S_1	S_2
S_1	240	4	3	1	0
x_1 ~~S_2~~	$\frac{100}{2}$	$\frac{(2)}{2}$	$\frac{1}{2}$	$\frac{0}{2}$	$\frac{1}{2}$
	= 50	1	1/2	0	1/2

i) In order to replace old variable with new variable, we have to divide this (↑) row with key element. (↑ row means key element row.)

ii) Multiply the second row by 4 and substract from first row.

		7	5	0	0
		x_1	x_2	S_1	S_2
S_1	$240-50\times4$ $= 40$	$4-1\times4$ 0	$3-1/2\times4$ 1	$1-0\times4$ 1	$0-1/2\times4$ -2
x_1	50	1	1/2	0	1/2

⇒ Stopping rule for transition steps: when we've achieved identity matrix pattern in the Pivot column then we will stop.

Second Table:

C_j	Solution Mix	Qty	7 x_1	5 x_2	0 S_1	0 S_2	Ratio
0	S_1	40	0	(1)	1	-2	$\frac{40}{1}=40$
7	x_1	50	1	1/2	0	1/2	$\frac{50}{1/2}$
Z_j	-	350	7	7/2	0	7/2	
$C_j - Z_j$	-	-	0	3/2 ↑	0	-7/2	

New Incoming Variable is x_2.
S_1 is the new outgoing variable.
Key element is 1.