

$$I_3 = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

matriz identidad orden 3×3

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Memaksimumkan : $Z = 3X_1 + 3X_2$ (dalam ribuan)

yang memenuhi kendala :

- 1). $2X_1 + X_2 \leq 30$
- 2). $2X_1 + 3X_2 \leq 60$
- 3). $4X_1 + 3X_2 \leq 72$ dan $X_1 \geq 0, X_2 \geq 0$.

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Fungsi Kendala :

$$\begin{cases} 2X_1 + X_2 + S_1 + 0S_2 + 0S_3 = 30 \\ 2X_1 + 3X_2 + 0S_1 + S_2 + 0S_3 = 60 \\ 4X_1 + 3X_2 + 0S_1 + 0S_2 + S_3 = 72 \\ X_1, X_2, S_1, S_2, S_3 \geq 0 \end{cases}$$

Fungsi Tujuan :

Max. $Z = 3X_1 + 3X_2 + 0S_1 + 0S_2 + 0S_3$.

$$\rightarrow \begin{bmatrix} 2 & 1 & 1 & 0 & 0 \\ 2 & 3 & 0 & 1 & 0 \\ 4 & 3 & 0 & 0 & 1 \end{bmatrix} \begin{matrix} X_1 \\ X_2 \\ S_1 \\ S_2 \\ S_3 \end{matrix} = \begin{bmatrix} 30 \\ 60 \\ 72 \end{bmatrix}$$

A variabel basis

	Cj	3	3	0	0	0		
Ci	Xi	X1	X2	S1	S2	S3	bi	Ri
0	S1	2	1	1	0	0	30	$\frac{30}{1} = 30$
0	S2	2	3	0	1	0	60	20
0	S3	4	3	0	0	1	72	24
	Zj	0	0	0	0	0	0	
	Zj - Cj	-3	-3	0	0	0		
0	S1	$\frac{4}{3}$	0	1	$-\frac{1}{3}$	0	10	
3	X2	$\frac{2}{3}$	1	0	$\frac{1}{3}$	0	20	
0	S3	2	0	0	0	1	12	

$\frac{1}{3}B_2$

$B_1 + (-1)B_2$
 $B_3 + (-3)B_2$
 $4 + (-3) \cdot \frac{2}{3}$
 $72 + (-3) \cdot 20$