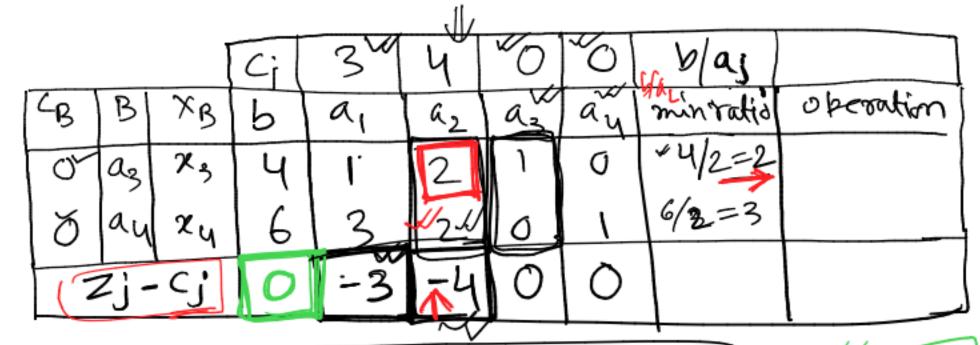
Simplen algorithm - Tabular from we have the LPP. Man Z= 37,+472 3.t. x,+2x2 =4 --0 $37,1272 \leq 6$ -231, 25 / O Introducing slack variables as and my to 1 and 2 respectively Then we have, man Z = 37,+472+023+024 8.t x,+222+23 =4 37, +272 + 274 = 6 $A = \begin{bmatrix} a_1 & a_2 & a_3 & a_4 & x_1, x_2 & y_0 \\ 1 & 2 & 1 & 0 \\ 3 & 2 & 0 & 1 \end{bmatrix}$ $A = \begin{bmatrix} 1 & 2 & 1 & 0 \\ 3 & 2 & 0 & 1 \end{bmatrix}$ $B = basis \ v \text{ aniables}$ $B = basis \ v \text{ aniables}$



$$Z_1 - C_1 = 0 \cdot 1 + 0 \cdot 3 - 3 = -3$$

$$Z_2 - C_2 = 0 \cdot 2 + 0 \cdot 2 - 4 = -4$$

$$Z_3 - C_3 = 0 \cdot 1 + 0 \cdot 0 - 0 = 0$$

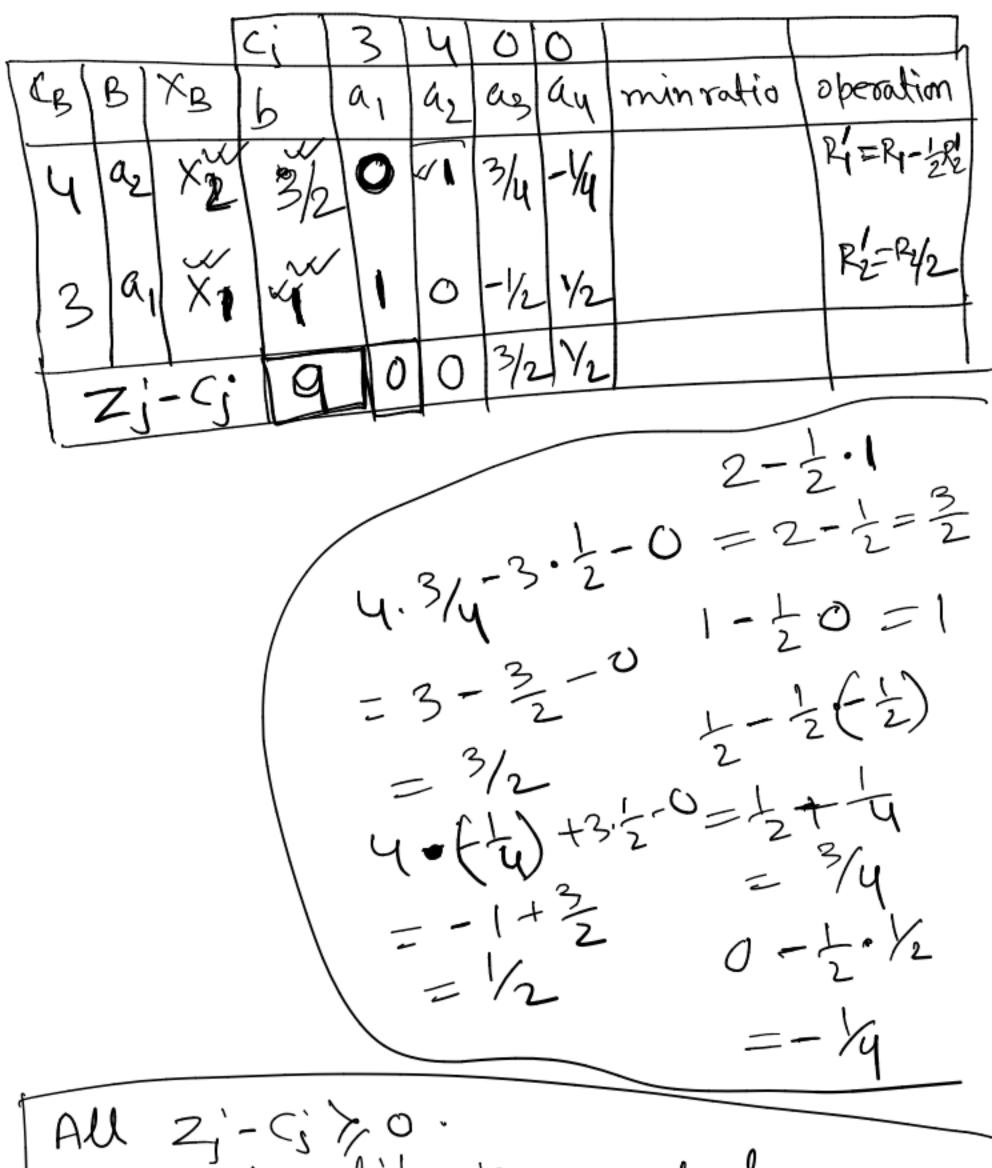
$$Z_4 - C_4 = 0 \cdot 0 + 0 \cdot 1 - 0 = 0$$

Zj- (j/)0

variable is min {(2j-(j)}

[i] 3 4 0 0 b/a	
[CB B XB b a, a, as ay minratio of	ocredim!
H ag x2 4/2=24 1/2 14 1/2 0 1/2 =4 Ri	= 142
17 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	$= R_3 - 2R$
0 ay xy, 2 2 Qc -1 1 42 -> ~	L 12-1
Zi-Si 8 1-110 2 0	
$4 \times \frac{1}{2} + 0 \cdot 2 - 3 = 1$ $6 - 2 \cdot 2 = 6 - 4 = 2$ $0 - 2 \cdot 2 = 6 - 4 = 2$	2.1/2

3-2.1-1



The optimality is reached.

The optimal solution is, 21 = 1, $2 = \frac{3}{2}$ and value of the optimal solution 2 = 9

Another example max Z = 37, +272 s.t. 22, 12 5 -3x, -2x, < 6 - 2) 71+4×2 <8-(3) マリス270 Inboducing slack variables 23, 24, and 215 in (1), (2), and (3), respectively. Then we have, $max Z = 3x_1 + 2x_2 + 0x_3 + 0x_4 + 0x_5$ s.t. 2x, +x2+x3 321-222 +24 $+\chi_5 = 8$ x1 +4x2 $\chi_1,\chi_2,\ldots,\chi_5 > 0$

0 2 4 0 0 -2 R3=R3 2) - () 58/4 0 0 1/4 0 1/4 1/4	CB B X B b a1 a2 a3 ay a5 minratio observation of a3 23 5 2" 1 1 0 0 5/2=2.5" O a3 23 5 2" 1 1 0 0 5/2=2.5" O a5 75 8 1 4 0 0 1 8/1=8 2j-C;
2j-cj 59/1 0 0 1/2	2 2 1/4 0 1 = 1/4 0 1/4
	0 24 24 0 0 -2 1 R3=R3

AN Zj-(j), ci » V timality in veached ortimal nothtion is $x_1 = \frac{1}{7}$, $x_2 = \frac{1}{4}$ value $Z = \frac{58}{7}$