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Kelas: Riset Operasi - 4806 - UAS

1.) Model Pengoson

	Profit (jutaan/bulan)			
Relman	A	B	C	D
V	10	10	9	9
W	12	9	8	8
X	10	11	8	8
Y	11	9	7	9

	Profit (jutaan/bulan)			
Relman	A	B	C	D
V	1	1	0	0
W	4	1	0	0
X	2	3	0	0
Y	4	2	0	2

	Profit (jutaan/bulan)			
Relman	A	B	C	D
V	10	10	9	9
W	12	9	8	8
X	10	11	8	8
Y	11	9	7	9

$$12 + 11 + 9 + 9 = 41 \text{ juta rupiah/bulan}$$

2.) Model Transportasi

a.) $X = 200 \text{ ton} \rightarrow 2X$

$Y = 200 \text{ ton} \rightarrow 2X$

$Z = 100 \text{ ton} \rightarrow 1X$

		u_1	u_2	u_3
		Blaya Transportasi (ratusan ribu/ton)		
Gudang		A	B	C
v_1	X	150 [3]	50 [2]	5
v_2	Y	10 [4]	150 [9]	50 [6]
v_3	Z	100 [2]	5	16 [1]
Kebutuhan		150	200	150

baris (m) = 3

kolom (n) = 3

$m + n - 1 = 3 + 3 - 1 = 5$

total cost = $(3 \times 150) + (50 \times 2) + (4 \times 150) + (6 \times 50) + (2 \times 100) = 1750$

b.) Modi

Sel terisi

Inlets

$U_i = 0$

 X_A

$U_1 + V_1 = 3$

$V_1 = 3$

 X_B

$U_2 + V_1 = 2$

$U_2 = 2$

 Y_B

$U_2 + V_2 = 4$

$V_2 = 2$

 Y_C

$U_3 + V_2 = 6$

$U_3 = 4$

 Z_A

$U_1 + V_3 = 2$

$V_3 = 2$

Sel kosong

indeks perubahan siklus

 \hat{C}_{ij} X_C \hat{C}_{31}

$= C_{31} - U_3 - U_1$

$5 + 2 - 0 = 7$

 Y_A \hat{C}_{21}

$= C_{21} - U_2 - U_1$

$4 - 2 - 0 = 2$

 Z_B \hat{C}_{32}

$= C_{32} - U_3 - U_2$

$2 + 2 - 2 = 2$

 Z_C \hat{C}_{33}

$= C_{33} - U_3 - U_3$

$5 + 2 - 4 = 1$

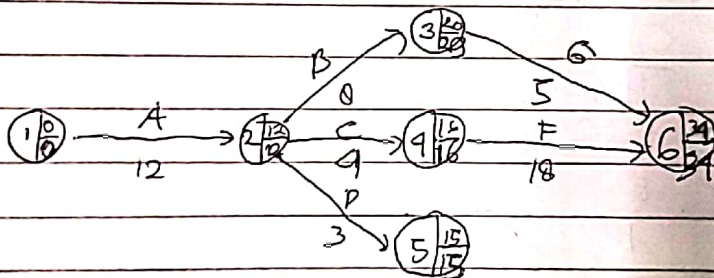
celu kelayakan = 5 sel

solusi layak karena $m+n-1$ \hat{C}_{ij} tidak ada yang negatif dan Cost yang digunakan sesuai

175000.000

rupiah/bulan

3.) a.)



$ET(1) = 0$

$LT(1) = 0$

$ET(2) = 0 + 12 = 12$

$LT(2) = 15 - 3 = 12$

$ET(3) = 12 + 8 = 20$

$LT(3) = 34 - 5 = 29$

$ET(4) = 12 + 9 = 21$

$LT(4) = 34 - 18 = 16$

$ET(5) = 12 + 3 = 15$

$LT(5) = 15$

$ET(6) = \min(20 + 5, (16 + 18)) = 34$

$LT(6) = 34$

b.) Critical path $ET = LT \rightarrow A - C - F$

$\text{waktu kritis} = 12 + 9 + 18 = 39$