IGOMU ENE MICHELLE

CHEMICAL ENGINEERING

17/ENG01/013

ENGINNERING MATHEMATICS IV ASSIGNMENT III

GAUSS ELIMINATION METHOD

A)

	Name Box	B	C	D	E	F	G	H	I	J	K	L
1	2	2	-4	2	6	-2		12				
2	4	-2	2	4	2	-6		60				
3	2	6	-6	-2	4	2		-45				
4	10	4	-2	-2	4	2		-9				
5	-6	-2	4	6	2	6		48				
6	8	6	2	-12	-6	-4		-81				
7												
8	2	2	-4	2	6	-2		12	PIVOT ROW			
9	0	-6	10	0	-10	-2		36				
10	0	4	-2	-4	-2	4		-57				
11	0	-6	18	-12	-26	12		-69				
12	0	4	-8	12	20	0		84				
13	0	-2	18	-20	-30	4		-129				
14												
15	2	2	-4	2	6	-2		12				
16	0	-6	10	0	-10	-2		36	PIVOT ROW			
17	0	0	4.6667	-4	-8.667	2.6667		-33				
18	0	0	8	-12	-16	14		-105				
19	0	0	-1.333	12	13.333	-1.333		108				
20	0	0	14.667	-20	-26.67	4.6667		-141				
21												
22	2	2	-4	2	6	-2		12				
23	0	-6	10	0	-10	-2		36				
24	0	0	4.6667	-4	-8.667	2.6667		-33	PIVOT ROW			
25	0	0	0	-5.143	-1.143	9.4286		-48.43				
26	0	0	0	10.857	10.857	-0.571		98.571				
27	0	0	0	-7.429	0.5714	-3.714		-37.29				
28												
29	2	2	-4	2	6	-2		12				
30	0	-6	10	0	-10	-2		36				
31	0	0	4.6667	-4	-8.667	2.6667		-33				
32	0	0	0	-5.143	-1.143	9.4286		-48.43	PIVOT ROW			
33	0	0	0	0	8.4444	19.333		-3.667				
34	0	0	0	0	2.2222	-17.33		32.667				

	A	B	C	D	E	F	G	H	I	J
20	0	0	14.667	-20	-26.67	4.6667		-141		
21										
22	2	2	-4	2	6	-2		12		
23	0	-6	10	0	-10	-2		36		
24	0	0	4.6667	-4	-8.667	2.6667		-33	PIVOT ROW	
25	0	0	0	-5.143	-1.143	9.4286		-48.43		
26	0	0	0	10.857	10.857	-0.571		98.571		
27	0	0	0	-7.429	0.5714	-3.714		-37.29		
28										
29	2	2	-4	2	6	-2		12		
30	0	-6	10	0	-10	-2		36		
31	0	0	4.6667	-4	-8.667	2.6667		-33		
32	0	0	0	-5.143	-1.143	9.4286		-48.43	PIVOT ROW	
33	0	0	0	0	8.4444	19.333		-3.667		
34	0	0	0	0	2.2222	-17.33		32.667		
35										
36	2	2	-4	2	6	-2		12		
37	0	-6	10	0	-10	-2		36		
38	0	0	4.6667	-4	-8.667	2.6667		-33		
39	0	0	0	-5.143	-1.143	9.4286		-48.43		
40	0	0	0	0	8.4444	19.333		-3.667	PIVOT ROW	
41	0	0	0	0	0	-22.42		33.632		
42										
43						T6	-1.5			
44						T5	3			
45						T4	6			
46						T3	4.5			
47						T2	-3			
48						T1	1.5			
49										

B)

$$a := \begin{pmatrix} 2 & 2 & -4 & 2 & 6 & -2 \\ 4 & -2 & 2 & 4 & 2 & -6 \\ 2 & 6 & -6 & -2 & 4 & 2 \\ 10 & 4 & -2 & -2 & 4 & 2 \\ -6 & -2 & 4 & 6 & 2 & 6 \\ 8 & 6 & 2 & -12 & -6 & -4 \end{pmatrix} \qquad b := \begin{pmatrix} 12 \\ 60 \\ -45 \\ -9 \\ 48 \\ -81 \end{pmatrix}$$

$$a_{1,0} - \left(\frac{a_{1,0}}{a_{0,0}}\right) \cdot (a_{0,0})$$

$$ai := \begin{array}{c} \begin{array}{cccccc} a_{0,0} & a_{0,1} & a_{0,2} & a_{0,3} & a_{0,4} & a_{0,5} \end{array} \\ \begin{bmatrix} a_{1,0} - \left(\frac{a_{1,0}}{a_{0,0}}\right) \cdot (a_{0,0}) & a_{1,1} - \left(\frac{a_{1,0}}{a_{0,0}}\right) \cdot (a_{0,1}) & a_{1,2} - \left(\frac{a_{1,0}}{a_{0,0}}\right) \cdot (a_{0,2}) & a_{1,3} - \left(\frac{a_{1,0}}{a_{0,0}}\right) \cdot (a_{0,3}) & a_{1,4} - \left(\frac{a_{1,0}}{a_{0,0}}\right) \cdot (a_{0,4}) & a_{1,5} - \left(\frac{a_{1,0}}{a_{0,0}}\right) \cdot (a_{0,5}) \\ a_{2,0} - \left(\frac{a_{2,0}}{a_{0,0}}\right) \cdot (a_{0,0}) & a_{2,1} - \left(\frac{a_{2,0}}{a_{0,0}}\right) \cdot (a_{0,1}) & a_{2,2} - \left(\frac{a_{2,0}}{a_{0,0}}\right) \cdot (a_{0,2}) & a_{2,3} - \left(\frac{a_{2,0}}{a_{0,0}}\right) \cdot (a_{0,3}) & a_{2,4} - \left(\frac{a_{2,0}}{a_{0,0}}\right) \cdot (a_{0,4}) & a_{2,5} - \left(\frac{a_{2,0}}{a_{0,0}}\right) \cdot (a_{0,5}) \\ a_{3,0} - \left(\frac{a_{3,0}}{a_{0,0}}\right) \cdot (a_{0,0}) & a_{3,1} - \left(\frac{a_{3,0}}{a_{0,0}}\right) \cdot (a_{0,1}) & a_{3,2} - \left(\frac{a_{3,0}}{a_{0,0}}\right) \cdot (a_{0,2}) & a_{3,3} - \left(\frac{a_{3,0}}{a_{0,0}}\right) \cdot (a_{0,3}) & a_{3,4} - \left(\frac{a_{3,0}}{a_{0,0}}\right) \cdot (a_{0,4}) & a_{3,5} - \left(\frac{a_{3,0}}{a_{0,0}}\right) \cdot (a_{0,5}) \\ a_{4,0} - \left(\frac{a_{4,0}}{a_{0,0}}\right) \cdot (a_{0,0}) & a_{4,1} - \left(\frac{a_{4,0}}{a_{0,0}}\right) \cdot (a_{0,1}) & a_{4,2} - \left(\frac{a_{4,0}}{a_{0,0}}\right) \cdot (a_{0,2}) & a_{4,3} - \left(\frac{a_{4,0}}{a_{0,0}}\right) \cdot (a_{0,3}) & a_{4,4} - \left(\frac{a_{4,0}}{a_{0,0}}\right) \cdot (a_{0,4}) & a_{4,5} - \left(\frac{a_{4,0}}{a_{0,0}}\right) \cdot (a_{0,5}) \\ a_{5,0} - \left(\frac{a_{5,0}}{a_{0,0}}\right) \cdot (a_{0,0}) & a_{5,1} - \left(\frac{a_{5,0}}{a_{0,0}}\right) \cdot (a_{0,1}) & a_{5,2} - \left(\frac{a_{5,0}}{a_{0,0}}\right) \cdot (a_{0,2}) & a_{5,3} - \left(\frac{a_{5,0}}{a_{0,0}}\right) \cdot (a_{0,3}) & a_{5,4} - \left(\frac{a_{5,0}}{a_{0,0}}\right) \cdot (a_{0,4}) & a_{5,5} - \left(\frac{a_{5,0}}{a_{0,0}}\right) \cdot (a_{0,5}) \end{bmatrix} \end{array}$$

$$bi := \begin{array}{c} b_{0,0} \\ \begin{bmatrix} b_{1,0} - \left(\frac{a_{1,0}}{a_{0,0}}\right) \cdot (b_{0,0}) \\ b_{2,0} - \left(\frac{a_{2,0}}{a_{0,0}}\right) \cdot (b_{0,0}) \\ b_{3,0} - \left(\frac{a_{3,0}}{a_{0,0}}\right) \cdot (b_{0,0}) \\ b_{4,0} - \left(\frac{a_{4,0}}{a_{0,0}}\right) \cdot (b_{0,0}) \\ b_{5,0} - \left(\frac{a_{5,0}}{a_{0,0}}\right) \cdot (b_{0,0}) \end{bmatrix} \end{array}$$

$$ai = \begin{pmatrix} 2 & 2 & -4 & 2 & 6 & -2 \\ 0 & -6 & 10 & 0 & -10 & -2 \\ 0 & 4 & -2 & -4 & -2 & 4 \\ 0 & -6 & 18 & -12 & -26 & 12 \\ 0 & 4 & -8 & 12 & 20 & 0 \\ 0 & -2 & 18 & -20 & -30 & 4 \end{pmatrix} \qquad bi = \begin{pmatrix} 12 \\ 36 \\ -57 \\ -69 \\ 84 \\ -129 \end{pmatrix}$$

$$ai = \begin{pmatrix} 0 & 4 & -2 & -4 & -2 & 4 \\ 0 & -6 & 18 & -12 & -26 & 12 \\ 0 & 4 & -8 & 12 & 20 & 0 \\ 0 & -2 & 18 & -20 & -30 & 4 \end{pmatrix} \qquad bi = \begin{pmatrix} -57 \\ -69 \\ 84 \\ -129 \end{pmatrix}$$

$$aii := \begin{bmatrix} ai_{0,0} & ai_{0,1} & ai_{0,2} & ai_{0,3} & ai_{0,4} & ai_{0,5} \\ ai_{1,0} & ai_{1,1} & ai_{1,2} & ai_{1,3} & ai_{1,4} & ai_{1,5} \\ ai_{2,0} & ai_{2,1} - \left(\frac{ai_{2,1}}{ai_{1,1}}\right)\cdot(ai_{1,1}) & ai_{2,2} - \left(\frac{ai_{2,1}}{ai_{1,1}}\right)\cdot(ai_{1,2}) & ai_{2,3} - \left(\frac{ai_{2,1}}{ai_{1,1}}\right)\cdot(ai_{1,3}) & ai_{2,4} - \left(\frac{ai_{2,1}}{ai_{1,1}}\right)\cdot(ai_{1,4}) & ai_{2,5} - \left(\frac{ai_{2,1}}{ai_{1,1}}\right)\cdot(ai_{1,5}) \\ ai_{3,0} & ai_{3,1} - \left(\frac{ai_{3,1}}{ai_{1,1}}\right)\cdot(ai_{1,1}) & ai_{3,2} - \left(\frac{ai_{3,1}}{ai_{1,1}}\right)\cdot(ai_{1,2}) & ai_{3,3} - \left(\frac{ai_{3,1}}{ai_{1,1}}\right)\cdot(ai_{1,3}) & ai_{3,4} - \left(\frac{ai_{3,1}}{ai_{1,1}}\right)\cdot(ai_{1,4}) & ai_{3,5} - \left(\frac{ai_{3,1}}{ai_{1,1}}\right)\cdot(ai_{1,5}) \\ ai_{4,0} & ai_{4,1} - \left(\frac{ai_{4,1}}{ai_{1,1}}\right)\cdot(ai_{1,1}) & ai_{4,2} - \left(\frac{ai_{4,1}}{ai_{1,1}}\right)\cdot(ai_{1,2}) & ai_{4,3} - \left(\frac{ai_{4,1}}{ai_{1,1}}\right)\cdot(ai_{1,3}) & ai_{4,4} - \left(\frac{ai_{4,1}}{ai_{1,1}}\right)\cdot(ai_{1,4}) & ai_{4,5} - \left(\frac{ai_{4,1}}{ai_{1,1}}\right)\cdot(ai_{1,5}) \\ ai_{5,0} & ai_{5,1} - \left(\frac{ai_{5,1}}{ai_{1,1}}\right)\cdot(ai_{1,1}) & ai_{5,2} - \left(\frac{ai_{5,1}}{ai_{1,1}}\right)\cdot(ai_{1,2}) & ai_{5,3} - \left(\frac{ai_{5,1}}{ai_{1,1}}\right)\cdot(ai_{1,3}) & ai_{5,4} - \left(\frac{ai_{5,1}}{ai_{1,1}}\right)\cdot(ai_{1,4}) & ai_{5,5} - \left(\frac{ai_{5,1}}{ai_{1,1}}\right)\cdot(ai_{1,5}) \end{bmatrix}$$

$$bii := \begin{bmatrix} bi_{0,0} \\ bi_{1,0} \\ bi_{2,0} - \left(\frac{ai_{2,1}}{ai_{1,1}}\right)\cdot bi_{1,0} \\ bi_{3,0} - \left(\frac{ai_{3,1}}{ai_{1,1}}\right)\cdot bi_{1,0} \\ bi_{4,0} - \left(\frac{ai_{4,1}}{ai_{1,1}}\right)\cdot bi_{1,0} \\ bi_{5,0} - \left(\frac{ai_{5,1}}{ai_{1,1}}\right)\cdot bi_{1,0} \end{bmatrix}$$

$$aii = \begin{pmatrix} 2 & 2 & -4 & 2 & 6 & -2 \\ 0 & -6 & 10 & 0 & -10 & -2 \\ 0 & 0 & 4.667 & -4 & -8.667 & 2.667 \\ 0 & 0 & 8 & -12 & -16 & 14 \\ 0 & 0 & -1.333 & 12 & 13.333 & -1.333 \\ 0 & 0 & 14.667 & -20 & -26.667 & 4.667 \end{pmatrix} \qquad bii = \begin{pmatrix} 12 \\ 36 \\ -33 \\ -105 \\ 108 \\ -141 \end{pmatrix}$$

$$aii = \begin{pmatrix} 0 & 0 & 4.667 & -4 & -8.667 & 2.667 \\ 0 & 0 & 8 & -12 & -16 & 14 \\ 0 & 0 & -1.333 & 12 & 13.333 & -1.333 \\ 0 & 0 & 14.667 & -20 & -26.667 & 4.667 \end{pmatrix} \qquad bii = \begin{pmatrix} -105 \\ 108 \\ -141 \end{pmatrix}$$

$$aiii := \begin{bmatrix} aii_{0,0} & aii_{0,1} & aii_{0,2} & aii_{0,3} & aii_{0,4} & aii_{0,5} \\ aii_{1,0} & aii_{1,1} & aii_{1,2} & aii_{1,3} & aii_{1,4} & aii_{1,5} \\ aii_{2,0} & aii_{2,1} & aii_{2,2} & aii_{2,3} & aii_{2,4} & aii_{2,5} \\ aii_{3,0} & aii_{3,1} & aii_{3,2} - \left(\frac{aii_{3,2}}{aii_{2,2}}\right)\cdot(aii_{2,2}) & aii_{3,3} - \left(\frac{aii_{3,2}}{aii_{2,2}}\right)\cdot(aii_{2,3}) & aii_{3,4} - \left(\frac{aii_{3,2}}{aii_{2,2}}\right)\cdot(aii_{2,4}) & aii_{3,5} - \left(\frac{aii_{3,2}}{aii_{2,2}}\right)\cdot(aii_{2,5}) \\ aii_{4,0} & aii_{4,1} & aii_{4,2} - \left(\frac{aii_{4,2}}{aii_{2,2}}\right)\cdot(aii_{2,2}) & aii_{4,3} - \left(\frac{aii_{4,2}}{aii_{2,2}}\right)\cdot(aii_{2,3}) & aii_{4,4} - \left(\frac{aii_{4,2}}{aii_{2,2}}\right)\cdot(aii_{2,4}) & aii_{4,5} - \left(\frac{aii_{4,2}}{aii_{2,2}}\right)\cdot(aii_{2,5}) \\ aii_{5,0} & aii_{5,1} & aii_{5,2} - \left(\frac{aii_{5,2}}{aii_{2,2}}\right)\cdot(aii_{2,2}) & aii_{5,3} - \left(\frac{aii_{5,2}}{aii_{2,2}}\right)\cdot(aii_{2,3}) & aii_{5,4} - \left(\frac{aii_{5,2}}{aii_{2,2}}\right)\cdot(aii_{2,4}) & aii_{5,5} - \left(\frac{aii_{5,2}}{aii_{2,2}}\right)\cdot(aii_{2,5}) \end{bmatrix}$$

$$biii := \begin{bmatrix} bii_{0,0} \\ bii_{1,0} \\ bii_{2,0} \\ bii_{3,0} - \left(\frac{aii_{3,2}}{aii_{2,2}}\right)\cdot(bii_{2,0}) \\ bii_{4,0} - \left(\frac{aii_{4,2}}{aii_{2,2}}\right)\cdot(bii_{2,0}) \\ bii_{5,0} - \left(\frac{aii_{5,2}}{aii_{2,2}}\right)\cdot(bii_{2,0}) \end{bmatrix}$$

$$aiii = \begin{pmatrix} 2 & 2 & -4 & 2 & 6 & -2 \\ 0 & -6 & 10 & 0 & -10 & -2 \\ 0 & 0 & 4.667 & -4 & -8.667 & 2.667 \\ 0 & 0 & 0 & -5.143 & -1.143 & 9.429 \\ 0 & 0 & 0 & 10.857 & 10.857 & -0.571 \\ 0 & 0 & 0 & -7.429 & 0.571 & -3.714 \end{pmatrix} \qquad biii = \begin{pmatrix} 12 \\ 36 \\ -33 \\ -48.429 \\ 98.571 \\ -37.286 \end{pmatrix}$$

$$aiii = \begin{pmatrix} 2 & 2 & -4 & 2 & 6 & -2 \\ 0 & -6 & 10 & 0 & -10 & -2 \\ 0 & 0 & 4.667 & -4 & -8.667 & 2.667 \\ 0 & 0 & 0 & -5.143 & -1.143 & 9.429 \\ 0 & 0 & 0 & 10.857 & 10.857 & -0.571 \\ 0 & 0 & 0 & -7.429 & 0.571 & -3.714 \end{pmatrix} \qquad biii = \begin{pmatrix} 12 \\ 36 \\ -33 \\ -48.429 \\ 98.571 \\ -37.286 \end{pmatrix}$$

$$aiv := \begin{bmatrix} aiii_{0,0} & aiii_{0,1} & aiii_{0,2} & aiii_{0,3} & aiii_{0,4} & aiii_{0,5} \\ aiii_{1,0} & aiii_{1,1} & aiii_{1,2} & aiii_{1,3} & aiii_{1,4} & aiii_{1,5} \\ aiii_{2,0} & aiii_{2,1} & aiii_{2,2} & aiii_{2,3} & aiii_{2,4} & aiii_{2,5} \\ aiii_{3,0} & aiii_{3,1} & aiii_{3,2} & aiii_{3,3} & aiii_{3,4} & aiii_{3,5} \\ aiii_{4,0} & aiii_{4,1} & aiii_{4,2} & aiii_{4,3} - \left(\frac{aiii_{4,3}}{aiii_{3,3}}\right)\cdot(aiii_{3,3}) & aiii_{4,4} - \left(\frac{aiii_{4,3}}{aiii_{3,3}}\right)\cdot(aiii_{3,4}) & aiii_{4,5} - \left(\frac{aiii_{4,3}}{aiii_{3,3}}\right)\cdot(aiii_{3,5}) \\ aiii_{5,0} & aiii_{5,1} & aiii_{5,2} & aiii_{5,3} - \left(\frac{aiii_{5,3}}{aiii_{3,3}}\right)\cdot(aiii_{3,3}) & aiii_{5,4} - \left(\frac{aiii_{5,3}}{aiii_{3,3}}\right)\cdot(aiii_{3,4}) & aiii_{5,5} - \left(\frac{aiii_{5,3}}{aiii_{3,3}}\right)\cdot(aiii_{3,5}) \end{bmatrix} \qquad biv := \begin{bmatrix} biii_{0,0} \\ biii_{1,0} \\ biii_{2,0} \\ biii_{3,0} \\ biii_{4,0} - \left(\frac{aiii_{4,3}}{aiii_{3,3}}\right)\cdot(biii_{3,0}) \\ biii_{5,0} - \left(\frac{aiii_{5,3}}{aiii_{3,3}}\right)\cdot(biii_{3,0}) \end{bmatrix}$$

$$aiv = \begin{pmatrix} 2 & 2 & -4 & 2 & 6 & -2 \\ 0 & -6 & 10 & 0 & -10 & -2 \\ 0 & 0 & 4.667 & -4 & -8.667 & 2.667 \\ 0 & 0 & 0 & -5.143 & -1.143 & 9.429 \\ 0 & 0 & 0 & 0 & 8.444 & 19.333 \\ 0 & 0 & 0 & 0 & 2.222 & -17.333 \end{pmatrix} \qquad biv = \begin{pmatrix} 12 \\ 36 \\ -33 \\ -48.429 \\ -3.667 \\ 32.657 \end{pmatrix}$$

$$av := \begin{bmatrix} aiv_{0,0} & aiv_{0,1} & aiv_{0,2} & aiv_{0,3} & aiv_{0,4} & aiv_{0,5} \\ aiv_{1,0} & aiv_{1,1} & aiv_{1,2} & aiv_{1,3} & aiv_{1,4} & aiv_{1,5} \\ aiv_{2,0} & aiv_{2,1} & aiv_{2,2} & aiv_{2,3} & aiv_{2,4} & aiv_{2,5} \\ aiv_{3,0} & aiv_{3,1} & aiv_{3,2} & aiv_{3,3} & aiv_{3,4} & aiv_{3,5} \\ aiv_{4,0} & aiv_{4,1} & aiv_{4,2} & aiv_{4,3} & aiv_{4,4} & aiv_{4,5} \\ aiv_{5,0} & aiv_{5,1} & aiv_{5,2} & aiv_{5,3} & aiv_{5,4} - \left(\frac{aiv_{5,4}}{aiv_{4,4}}\right)\cdot(aiv_{4,4}) & aiv_{5,5} - \left(\frac{aiv_{5,4}}{aiv_{4,4}}\right)\cdot(aiv_{4,5}) \end{bmatrix} \qquad bv := \begin{bmatrix} biv_{0,0} \\ biv_{1,0} \\ biv_{2,0} \\ biv_{3,0} \\ biv_{4,0} \\ biv_{5,0} - \left(\frac{aiv_{5,4}}{aiv_{4,4}}\right)\cdot(biv_{4,0}) \end{bmatrix}$$

$$av = \begin{pmatrix} 2 & 2 & -4 & 2 & 6 & -2 \\ 0 & -6 & 10 & 0 & -10 & -2 \\ 0 & 0 & 4.667 & -4 & -8.667 & 2.667 \\ 0 & 0 & 0 & -5.143 & -1.143 & 9.429 \\ 0 & 0 & 0 & 0 & 8.444 & 19.333 \\ 0 & 0 & 0 & 0 & 0 & -22.421 \end{pmatrix} \qquad bv = \begin{pmatrix} 12 \\ 36 \\ -33 \\ -48.429 \\ -3.667 \\ 33.632 \end{pmatrix}$$

Normal | Arial | 10 | 100%

$$av = \begin{pmatrix} 0 & 0 & 0 & -5.143 & -1.143 & 9.429 \\ 0 & 0 & 0 & 0 & 8.444 & 19.333 \\ 0 & 0 & 0 & 0 & 0 & -22.421 \end{pmatrix} \qquad bv = \begin{pmatrix} -48.429 \\ -3.667 \\ 33.632 \end{pmatrix}$$

$$T6 := \frac{bv_{5,0}}{av_{5,5}}$$

$$T6 = -1.5$$

$$T5 := \frac{\left[bv_{4,0} - \left(av_{4,5} \cdot T6\right)\right]}{av_{4,4}}$$

$$T5 = 3$$

$$T4 := \frac{\left(bv_{3,0} - av_{3,5} \cdot T6 - av_{3,4} \cdot T5\right)}{av_{3,3}}$$

$$T4 = 6$$

$$T3 := \frac{\left(bv_{2,0} - av_{2,5} \cdot T6 - av_{2,4} \cdot T5 - av_{2,3} \cdot T4\right)}{av_{2,2}}$$

$$T3 = 4.5$$

$$T2 := \frac{\left(bv_{1,0} - av_{1,5} \cdot T6 - av_{1,4} \cdot T5 - av_{1,3} \cdot T4 - av_{1,2} \cdot T3\right)}{av_{1,1}}$$

$$T2 = -3$$

$$T1 := \frac{\left(bv_{0,0} - av_{0,5} \cdot T6 - av_{0,4} \cdot T5 - av_{0,3} \cdot T4 - av_{0,2} \cdot T3 - av_{0,1} T2\right)}{av_{0,0}}$$

$$T1 = 1.5$$

MATRIX INVERSE METHOD

C)

	A	B	C	D	E	F	G	H	I	J	K	L
2	A								T		B	
3		2	2	-4	2	6	-2		T1		12	
4		4	-2	2	4	2	-6		T2		60	
5		2	6	-6	-2	4	2		T3		-45	
6		10	4	-2	-2	4	2		T4		-9	
7		-6	-2	4	6	2	6		T5		48	
8		8	6	2	-12	-6	-4		T6		-81	
9												
10	A^-1											
11		-0.15141	0.077465	0.042254	0.098592	-0.05282	-0.0493					
12		-0.27465	0.2723	0.406103	-0.10798	0.117371	0.053991					
13		0.165493	-0.01878	-0.13146	-0.00117	0.164319	0.125587					
14		-0.45775	0.342723	0.399061	-0.04108	0.001174	-0.10446					
15		0.545775	-0.26761	-0.37324	0.045775	0.091549	0.102113					
16		-0.07746	-0.07277	-0.00939	0.089202	0.011737	-0.0446					
17												
18		T=(A^-1)*B										
19		1.5										
20		-3										
21		4.5										
22		6										
23		3										
24		-1.5										

D)

$$A := \begin{pmatrix} 2 & 2 & -4 & 2 & 6 & -2 \\ 4 & -2 & 2 & 4 & 2 & -6 \\ 2 & 6 & -6 & -2 & 4 & 2 \\ 10 & 4 & -2 & -2 & 4 & 2 \\ -6 & -2 & 4 & 6 & 2 & 6 \\ 8 & 6 & 2 & -12 & -6 & -4 \end{pmatrix}$$

$$B := \begin{pmatrix} 12 \\ 60 \\ -45 \\ -9 \\ 48 \\ -81 \end{pmatrix}$$

$$A \cdot T := B$$

$$Tbar := A^{-1} \cdot B$$

$$Tbar = \begin{pmatrix} 1.5 \\ -3 \\ 4.5 \\ 6 \\ 3 \\ -1.5 \end{pmatrix}$$