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STUDENT ID:	2410805
COURSE:	Cyber Security (Group A)
LEVEL:	1
LECTURER:	Dr. Narainsamy Pavaday
MODULE:	ICT 1217Y Cyber Security Mathematics and Statistics

2*2 Matrix 1	<u>Addit</u>	ion Of N	latrix											
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3*3 Matrix													
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Inverse Co-Factor	' Method										
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				0	-8	0							
				-20	4	4							
									-0.875	-0.125	0.375		
		Inverse Ma	atrix =	-0.875	-0.125	0.375			0	0.25	0		<u>.</u>
				0	0.25	0			0.625	-0.125	-0.125		
				0.625	-0.125	-0.125			ANSWER				
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	1	5	2	3									0.212121
	2	2	1	1									-0.0303
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		1st Co-fact	or Mult.	-8									
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		2nd Co-fac	tor Mult.	-8			DET(dd 5c)			į	DET(dd bc)	3	
Find Co- fac	ctors												
1ST ROW	3	1	0		1	1	0		1	3	0		1
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	Determina		6		Determina		6		Determina		18	 	Determina
2ND ROW	2	6	1		4	6	1		4	2	1		4
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	Determina	ant 3:	32		Determina		32		Determina		2		Determina
3RD ROW	2	6	1		4	6	1		4	2	1		4
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								3rd Co-fact	tor Mult.	84			
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ht 1:	. 4				<u>;</u>	<u>.</u>	<u> </u>	<u>.</u>			<u> </u>		
ht 2:	-10				ļ	Transpose	OF Matrix		-2	-5	-15	47	
nt 3:	-52					<u>.</u>			-6	23	3	-5	
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ht 1:	4				:	Inverse Of	Matrix		-0.0303	-0.07576	-0.22727	0.712121	
nt 1: nt 2:	-10				:	:	:		-0.09091	0.348485	0.045455	-0.07576	
nt 3:	-32								0.212121	0.030303	0.090909	-0.48485	

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5	2	i	-3	1	2	: 	1	1	5
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4TH ROW	2	6	1	4	6	1	4	2	1		4
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	5	2	3	1	2	3	1	5	3		1
	Determinant 1: 6		Determinant 1:		12	Determina	nt 1:	36	i	Determina	
	Determina	nt 2:	48	Determina	nt 2:	16	Determina	nt 2:	1		Determina
	Determina	nt 3:	-5	Determina	nt 3:	-1	Determina	nt 3:	-3		Determina

					-0.0303	-0.57576	0.272727	0.212121	
2	6								
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nverse Row O	peration								
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*3 Matrix									
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-1		3	\	0	1	0			0
5	-7	9	\	0	0	1			0
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1/PIVOT ELEMEN	Т	1	-0.25	0.5	\	0.25	0	0	
2/\$B\$4	=	1	-2	-3	\	0	-1	0	
3/\$B\$5		1	-1.4	1.8	\	0	0	0.2	
1		1	-0.25	0.5	\	0.25	0	0	
2-R1	=	0	-1.75	-3.5	\	-0.25	-1	0	
3-R1		0	-1.15	1.3	\	-0.25	0	0.2	
1			0.25	0.5	\	0.25	0	0	
1		1	-0.25	0.5	\	0.25		0	
2/\$E\$13	=	0	1	_	\	0.142857	0.571428571	0	
3/\$E\$14		0	1	-1.130434783	\	0.217391	0	-0.173913044	
1		1	-0.25	0.5	\	0.25	0	0	
	=	0	1	2	,	0.142857	0.571428571	0	
2 3-R2		0	0	-3.130434783	\	0.074534	-0.571428571	-0.173913044	
1		1	-0.25	0.5	\	0.25	0	0	
1 2	=	0	1	2	\	0.142857	0.571428571	0	
3/\$F\$22		0	0	1	\	-0.02381	0.182539683	0.05555556	
					_				
1-(R2*\$E\$24) 2		1	0	1	\	0.285714	0.142857143	0	
2	=	0	1	2	\	0.142857	0.571428571	0	
3	.	0	0	1	\	-0.02381	0.182539683	0.05555556	
. (5044-400)					,	0.00075			
1-(R3*\$F\$28)		1	0	0	\	0.309524	-0.03968254	-0.05555556	
(2-(R3*\$F\$29)	=	0	1	0	\	0.190476	0.206349206	-0.111111111	

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R3			0	0	1	\	-0.02381	0.182539683	0.05555556	
	:									
4*4 Matrix										
	4	2	6	1	\	1	0	0	0	
	1	3	1	0	\	0	1	0	0	
	1	5	2	3	\	0	0	1	0	
	2	2	1	1	\	0	0	0	1	
							WORKING			
R1/PIVOT EL	EMENT		1	0.5	1.5	0.25	/	0.25	0	0
R2/\$B\$43		=	1	3	1	0	/	0	1	0
R3/\$B\$44			1	5	2	3	/	0	0	1
R4/\$B\$45			1	1	0.5	0.5	/	0	0	0
R1			1	0.5	1.5	0.25	/	0.25	0	0
R2-R1		=	0	2.5	-0.5	-0.25	/	-0.25	1	0
R3-R1			0	4.5	0.5	2.75	/	-0.25	0	1
R4-R1			0	0.5	-1	0.25	/	-0.25	0	0
	,									
R1			1	0.5	1.5	0.25	/	0.25	0	0
R2/\$E\$54		=	0	1	-0.2	-0.1	/	-0.1	0.4	0
R3/\$E\$55			0	1	0.111111111	0.611111111	/	-0.05555556	0	0.22222222
R4/\$E\$56			0	1	-2	0.5	/	-0.5	0	0
R1			1	0.5	1.5	0.25	/	0.25	0	0
R1 R2	<u>.</u>	= =	0	1	-0.2	-0.1	/	-0.1	0.4	0
R3-R2			0	0	0.311111111	0.711111111	/	0.04444444	-0.4	0.22222222
R3-R2 R4-R2			0	0	-1.8	0.6	/	-0.4	-0.4	0.2222222
							,	•	•	•
R1			1	0.5	1.5	0.25	/	0.25	0	0
R2		=	0	1	-0.2	-0.1	/	-0.1	0.4	0
R3	·}		0	0	0.311111111	0.711111111	/	0.04444444	-0.4	0.22222222

	1	0	0	0	/	-0.03030303	-0.075757576	-0.227272727	0.712121212
	0	1	0	0	/	-0.060606061	0.348484849	0.045454545	-0.075757576
	0	0	1	0	/	0.212121212	0.03030303	0.090909091	-0.484848485
	0	0	0	1	/	-0.03030303	-0.575757576	0.272727273	0.212121212
						ANSWER			
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R4/\$F\$66		0	0	1	-0.333333333	/	0.22222222	0.22222222	0
R1		1	0.5	1.5	0.25	/	0.25	0	0
R2 R3	=	0	1	-0.2	-0.1	/	-0.1	0.4	0
R3		0	0	0.311111111	0.711111111	/	0.04444444	-0.4	0.22222222
R4-(R3/F\$70\$)		0	0	0	-2.619047619	/	0.079365079	1.507936508	-0.714285714
R1		1	0.5	1.5	0.25	/	0.25	0	0
	=	0	1	-0.2	-0.1	/	-0.1	0.4	0
R2 R3/\$F\$65		0	0	1	2.285714286	/	0.142857143	-1.285714286	0.714285714
R4/\$G\$76		0	0	0	1	/	-0.03030303	-0.575757576	0.272727273
R1-(R2*\$E\$78)		1	0	1.6	0.3	/	0.3	-0.2	0
R2	=	0	1	-0.2	-0.1	/	-0.1	0.4	0
R3		0	0	1	2.285714286	/	0.142857143	-1.285714286	0.714285714
R4		0	0	0	1	/	-0.03030303	-0.575757576	0.272727273
R1-(R4*\$F\$83)		1	0	0	-3.357142857	/	0.071428571	1.857142857	-1.142857143
R2	=	0	1	-0.2	-0.1	/	-0.1	0.4	0
R3		0	0	1	2.285714286	/	0.142857143	-1.285714286	0.714285714
R4		0	0	0	1	/	-0.03030303	-0.575757576	0.272727273
R1-(R4*\$G\$88)		1	0	0	0	/	-0.03030303	-0.075757576	-0.227272727
R2-(R3*\$F\$89)	=	0	1	0	0.357142857	/	-0.071428571	0.142857143	0.142857143
R3-(R4*\$G\$90)		0	0	1	0	/	0.212121212	0.03030303	0.090909091
R4		0	0	0	1	/	-0.03030303	-0.575757576	0.272727273
		4			0	/	0.02020202	0.075757576	0 22727277
R1		1	0	0	0	/	-0.03030303	-0.075757576	-0.227272727
R2-(R4*\$G\$94)	=	0	1	0	0	/	-0.060606061	0.348484849	0.045454545
R3		0	0	1	0	/	0.212121212	0.03030303	0.090909091
R4		0	0	0	1	/	-0.03030303	-0.575757576	0.272727273

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-0.55555556					
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0.712121212					
0					
-0.484848485					
0.212121212					
0.712121212	 				
-0.075757576	 		 	 	
-0.484848485	 	 			
0.212121212	 	 	 	 	
0.212121212					

Cramer's	Rule												
3*3 Matrix													
o macrix						<u>.</u>	<u> </u>				X1=	4	
		4	-1	2	\	15	İ				X2=	3	
	•••••	-1	2	3	\ \	5					X3=	1	•••••
	•••••	5	-7	9	\ \ \	8	·····				Answer		
	•••••		А		<u> </u>	Х							
<u> </u>		Determina	nt of A =	126									
			15	1	2					4	15	2	
		V1	15 -	-1			<u> </u>		V2	4	15 -	2	
		X1	5 8	2 -7	3 9				X2	-1 5	5 8	3 9	
			8	-/	9					5	٥	9	
		Determina	nt =	504					Determina	nt =	378		
:							:						
				X1 =	4						X2 =	3	
						<u>.</u>							
*4 Matrix													
						,					244	0.000407	
		. 1	2	3	2	<u>\</u>	1				X1	0.239437	
		. 4	4	9	6	\	2				X2	0.619718	
		. 3	6	10	1	\	3				X3	-0.14085	
		. 4	5 A	0	2	\	4 X				X4 Answer	-0.02817	
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													•••••
Α	1	2	3	2		<u> </u>			•		:		
	4	4	9	6									
	3	6	10	1				Determina	nt of A:	213			
	4	5	0	2									

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 !	X3	4 -1 5	-1 2 -7	15 5 8				
 <u> </u>	Λ3	-1	_	3			ļ	<u> </u>
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	Determina	nt =	126					
 6 :					6	!	}	 :
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	1	4	9	6								-2
		6	10	1								
		5	0	2					٥			
				_								
	4	10	1		-9	6	1		6	6	10	 4
		0				5	2			5	0	
		_	_				_				_	
	DET(ad-bc)	20			DET(ad-bc)	7			DET(ad-bc)	-50		DET(ad-bc)
	<i>52.</i> (dd 50)	20			<i>D</i> 2. (dd <i>D</i> 0)				<i>D</i> 2.1 (dd 00)	30		<i>D</i>
	1st Co-fact	er Mult	-283									2nd Co-fac
	130 00 1000	0	200									2114 00 140
	3	4	4	6	i							-2
	3	3	6	1								_
		4	5	2								
		-		_	 							
	Д	6	1		-4	3	1		6	3	6	 Λ
		5	2			4	2		J	4	5	
						7				7	3	
	DET(ad-bc)	7			DET(ad-bc)	2			DET(ad-bc)	-9		DET(ad-bc)
	DET(dd bc)	,			DET(dd bc)	۷			DLT(dd DC)	<u> </u>		 DET(dd DC)
	:											
	3rd Co-fact	or Mult	-102									 4th Co-fact
	Sia co iaci	or widit.	102	l								Till Co Taci
X1	1	2	3	2	i							
VΤ	2	4	9	6		Determina	nt of X1·	51				
	3	6	10	1		Determina	III OI AI.	31				
	4	5	0	2			X1 =	0.239437				
	7						VI -	0.233737				
	<u>i</u>											
	1	4	9	6	i							2
	1	6	10	1								-2
	<u> </u>	5	0	2								
		5	U									

4	9	6						
3	10	1						
4	0	2						
10	1		-9	3	1	6	3	10
0	2			4	2		4	0
20			DET(ad-bc)	2		DET(ad-bc)	-40	
tor Mult.	356							
4	4	9						
3	6	10						
4	5	0						
6	10		-4	3	10	9	3	6
5	0			4	0		4	5
-50			DET(ad-bc)	-40		DET(ad-bc)	-9	
or Mult.	242					 		
		-						
2	9	6						
3	10	1						
4	0	2						

	4	10	1		-9	6	1		6	6	10		2
		0	2			5	2			5	0	ļ	
	DET(ad-bc)	20			DET(ad-bc)	7			DET(ad-bc)	-50			DET(ad-bc)
			200										
	1st Co-fact	or Mult.	-283										2nd Co-fac
	······												
	2				1							: : :	
	3	2	4	6									-2
		3	6 5	2								<u> </u>	
		4	5	Z	ļ								
	2	<u></u>	4		4	2	1		۲	2		<u>:</u> 	2
	2	6 5	1		-4	3	2		6	3	6		Z
		3	4			4				4	3	:	: { !
	DET(ad-bc)	7			DET(ad-bc)	2			DET(ad-bc)	-9		<u>:</u> :	DET(ad-bc)
	DET(au-bc)	/			DET(au-bc)	۷			DET(au-bc)	-9			DET(au-bc)
												<u>:</u> :	
	3rd Co-fact	or Mult	-144										4th Co-fact
	Sia co iace	or wate.	177									 !	+ti1 CO 10C
												<u>:</u>	
X2	1	1	3	2	İ							· ·	
	4	2	9	6		Determina	nt of X2:	132				<u>:</u>	
	3	3	10	1									
	4	4	0	2			X2 =	0.619718					
												•	
	1	2	9	6									-1
		3	10	1								·	
		4	0	2									
	2	10	1		-9	3	1		6	3	10		4
		0	2			4	2			4	0		

10	1		-9	3	1	6	3	10
0	2			4	2		4	0
20			DET(ad-bc)	2		DET(ad-bc)	-40	
tor Mult.	436							
2	4	9						
3	6	10						
4	5	0						
6	10		-4	3	10	9	3	6
5	0			4	0		4	5
-50			DET(ad-bc)	-40		 DET(ad-bc)	-9	
or Mult.	42							
ļ								
		_						
4	9	6				 		
3	10	2						
4	0	2	ļ					
40	4		ام	2	4		2	40
10	1		-9	3	1	 6	3	10
0	2			4	2		4	0

	DET(ad-bc)	20			DET(ad-bc)	2			DET(ad-bc)	-40		DET(ad-bc)
	1st Co-facto	or Mult	-218									2nd Co-fac
	13t CO-lacte	or iviuit.	-210									 ZIIU CO-Iac
•••••												
	3	4	2	6		<u> </u>						-2
		3	3	1		.						
	_	4	4	2	<u> </u>							
	4	2	4		2		1	<u> </u>	C	2	2	
	4	3	2		-2	3	2		6	3	5	 4
		-	۷							-		
	DET(ad-bc)	2			DET(ad-bc)	2			DET(ad-bc)	0	İ	 DET(ad-bc)
	3rd Co-facto	or Mult.	12									 4th Co-fac
Х3	1	2	1	2	İ	<u> </u>						
	4	4	2	6		Determina	nt of X3:	-30				
	3	6	3	1								
	4	5	4	2	<u> </u>		X3 =	-0.14085				
						<u> </u>						
	1	4	2	6	<u>.</u>							-2
		6	3	1	-							
		5	4	2	······							
												 •••••
	4	3	1		-2	6	1		6	6	3	4
		4	2			5	2	ļ		5	4	
	DET/ - \	2			DET/ 1 ! \	7					<u> </u>	DET/s - L l \
	DET(ad-bc)	2			DET(ad-bc)	/			DET(ad-bc)	9		DET(ad-bc)

20			DET(ad-bc)	2		DET(ad-bc)	-40	
tor Mult.	178							
4	2	9						
3	3	10						
4	4	0				 		
3	10		-2	3	10	 9	3	3
4	0	•••••		4	0		4	4
-40			DET(ad-bc)	-40		DET(ad-bc)	0	
	(.			 		
or Mult.	160							
						 		•••••
			•			 		
4	2	6						
3	3	1						
4	4	2						
3	1		-2	3	1	6	3	3
4	2			4	2		4	4
2			DET(ad-bc)	2		DET(ad-bc)	0	

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				•••••									
	1st Co-facto	or Mult.	48										2nd Co-fa
						<u></u>							
												<u>.</u>	
	1	4	4	6									-
		3	6	1									
		4	5	2	<u>_</u>								
		-					4					<u> </u>	
	4	6	1		-4	3	1		6	3	6	ļ	
		5	2			4	2			4	5	 :	
	DET(ad-bc)	7			DET(ad-bc)	2			DET(ad-bc)	-9		<u> </u>	DET(ad-b
	DET(au-bc)	/			DET(au-bc)				DET(au-bc)	-9			DET(au-bi
												 !	
	3rd Co-fact	or Mult.	-34									<u>:</u> :	4th Co-fa
	314 60 1466	01 111010	3.										10.100.10
												<u>.</u>	
X4	1	2	3	1								 	
	4	4	9	2		Determina	nt of X4:	-6					
	3	6	10	3									
	4	5	0	4			X4 =	-0.02817				:	
	1	4	9	2				·				<u>.</u>	-
		6	10	3									
		5	0	4	<u> </u>							<u></u>	
		40	-						2	-	40	<u> </u>	
	4	10	3		-9	6	3		2	6	10	ļ	:
		U	4			5	4] :		5	U	! :	
	DET(ad-bc)	40			DET(ad-bc)	9			DET(ad-bc)	-50		<u>:</u> :	DET(ad-b
	DET(au-DC)	40			DLT(au-DC)	9			DET(au-DC)	-30	ļ	<u></u>	DLT(au-bi
												i	

-			:			:		:	
			ļ						
tor Mult.	-8								
			•			•			
4	4	2	İ						
3	6	3							
4	5	4							
4	5	4							
	_			_	_			_	
6	3		-4	3	3		2	3	6
5	4		<u> </u>	4	4			4	5
9			DET(ad-bc)	0			DET(ad-bc)	-9	
								}	
or Mult.	-36								
	30								
			<u>.</u>						
			ļ						
			<u> </u>						
4	9	2	İ						
3	10	3							
4	0	4							
-	<u> </u>								
10	3		-9	2	2		า	2	10
			-9	3	3		2	3	10
0	4			4	4			4	U
40			DET(ad-bc)	0			DET(ad-bc)	-40	<u> </u>
tor Mult.	-160								
			:						

3	4	4	2							-1
	3	6	3							
	4	5	4							
4	6	3		-4	3	3	2	3	6	4
	5	4			4	4		4	5	
DET(ad-bc)	9			DET(ad-bc)	0		DET(ad-bc)	-9		DET(ad-bc)
3rd Co-fact		54								4th Co-fact

4	4	9						
3	6	10						
4	5	0						
6	10		-4	3	10	9	3	6
5	0			4	0		4	5
-50			DET(ad-bc)	-40		DET(ad-bc)	-9	
or Mult.	121							

Rank Of	Matrix												
4*4 Matrix	Homogen	ous					•						
				Augmente	d Matrix								
		4	1	1	1	/	1				1	0.25	0.25
		1	3	-2	1	/	2				0	1	-0.81818
		2	2	-3	2	/	3				0	0	-1.51515
		3	3	2	2	/	2				0	0	0
			Α				В					Α	
									WORKING				
		ELEMENT			1	0.25	0.25	0.25	/	0.25			
	R2/\$C\$7			=	1	3	-2	1	/	2			
	R3/\$C\$8				1	1	-1.5	1	/	1.5			
	R4/\$C\$9				1	1	0.666667	0.666667	/	0.666667			
	R1				1	0.25	0.25	0.25	/	0.25			
I	R2-R1			=	0	2.75	-2.25	0.75	/	1.75			
L	R3-R1				0	0.75	-1.75	0.75	/	1.25			
	R4-R1				0	0.75	0.416667	0.416667	/	0.416667			
	R1	ļ			1	0.25	0.25	0.25	/	0.25			
	R2/\$G\$21			=	0	1	-0.81818	0.272727	/	0.636364			
	R3/\$G\$22	<u> </u>			0	1	-2.33333	1	/	1.666667			
	IF(\$G\$23<	<>0, R4/\$G	\$23, R4)		0	1	0.55556	0.55556	/	0.55556			
	R1				1	0.25	0.25	0.25	/	0.25			
	R2			=	0	1	-0.81818	0.272727	/	0.636364			
	R3-R2				0	0	-1.51515	0.727273	/	1.030303			

	-				•			-	-
							<u>!</u>		
			BASED ON	THE NUMB	ER OF UNK	NOWN AN	D AUGMEN	TED MATRI	X
			1. IF RANK	(A) = RANK	B, Thereto	re Unique	Solution		
			 2. IF RANI	((A) <> RAN	IK B , There	fore Incon	Solution sistent nerefore M		<u>.</u>
0.25	/	0.25	 3. IF THER	E ARE MAN	<u>IY UNKNOW</u>	/N IN A , TI	nerefore M	ultiple Solu ·	tion
0.272727273	/	0.636363636	 						
0.727272727	/	1.03030303	 						
0.685882353	/	0.621176471					<u>.</u>		
	ANSWER	В	 			: :	<u> </u>		
			 						<u></u>
			 				<u>.</u>		
							<u>;</u>		
							<u>.</u>		

IF(\$G\$23<>0, (R4	-F\$26), R4)	0	0	1.373737	0.282828	/	-0.08081		
R1		1	0.25	0.25	0.25	/	0.25		
R2	=	0	1	-0.81818	0.272727	/	0.636364		
IF(\$G\$23<>0,G\$3	2,G\$32/\$H\$32)	0	0	-1.51515	0.727273	/	1.030303		
R4/\$H\$33		0	0	1	0.205882	/	-0.05882		
R1		1	0.25	0.25	0.25	/	0.25		
R2	=	0	1	-0.81818	0.272727	/	0.636364		
R3		0	0	-1.51515	0.727273	/	1.030303		
R4-(R3/H\$37\$)		0	0	0	0.685882	/	0.621176		

GAUSS JA	COBI					
						•••••
4*4 Matrix						
LEADING DIA	AGONAL DOMINANC	E				
		E ROW LEADING DIAGO				
	6 1	3 2	\ 1			
	5 6	-4 1	-2	<u>:</u>		
	2 -1	5 -3	3			
	2 3	-3 4	\ 3	ļ		
EO1:	6 W	1 X	3 Y	2 Z	= 1	
EQ1:	O VV	1 ^	3 1	Z Z	_ <u> </u>	
EQ2:	5 W	6 X	-4 Y	1 Z	= -2	
EQ3:	2 W	-1 X	5 Y	-3 <mark>Z</mark>	= 3	
EQ4:	2 W	3 X	-3 Y	4 <mark>Z</mark>	= 3	
				<u> </u>		
				ļ		
				ļ		
				ļ		
		-				
				<u> </u>		
				<u> </u>		
				<u> </u>		
:	<u> </u>	<u>: : : : : : : : : : : : : : : : : : : </u>	: :	:	<u>: : : : : : : : : : : : : : : : : : : </u>	

 Terms	W	Χ	У	Z
 LET	0	0	0	
1	0.166666667	-0.333333333	0.6	0.75
2	-0.327777778	-0.197222222	0.916666667	1.366666667
3	-0.714351852	0.323148148	1.511666667	1.749305556
4	-1.226126543	0.978186728	1.999953704	1.998564815
5	-1.662529578	1.688647119	2.485226852	2.129388503
6	-2.067184114	2.354027799	2.880374357	2.178699588
7	-2.392091675	2.946453068	3.204898958	2.178351975
8	-2.652975649	3.433617038	3.453138468	2.139880255
9	-2.845465492	3.82292531	3.63184182	2.091128897
10	-2.983451428	4.110594308	3.757448597	2.029420129
11	-3.073630059	4.319605233	3.83315151	1.976866431
12	-3.128798771	4.453981651	3.879492929	1.921974737
13	-3.156068319	4.539998472	3.895500681	1.883532844
14	-3.165594367	4.579801912	3.900546728	1.844660816
15	-3.161793955	4.597582989	3.888994619	1.823355796
16	-3.151879739	4.590265409	3.878247657	1.7994557
17	-3.137319963	4.578822271	3.858478398	1.791926556
18	-3.123018429	4.554764475	3.845848373	1.778402077
19	-3.108185625	4.536680593	3.827201513	1.779822138
20	-3.096321568	4.511652006	3.818503651	1.771983502
21	-3.085188327	4.497273157	3.804049129	1.778299518
22	-3.07766993	4.477306439	3.800509673	1.772676143
23	-3.070697957	4.4696187	3.790134946	1.78123739
24	-3.067083053	4.455465363	3.790945357	1.775736163
25	-3.063295627	4.453910088	3.783367992	1.785151522
•	•	•		

DING DIAGO	NAL DOMINA	NCE							
		<u> </u>							
		Į			<u> </u>				
								Sum	
5	6	-4	1	/	-2		Row 1	3	
6	1	3	2	/	1		Row 2	6	
2	-1	5	-3	<u>\</u>	3		Row 3	1	
2	3	-3	4	\	3		Row 4	4	
		ļ							
IF statemer	nt AND MAX, t	he cells are s	wapped w	here the fi	rst column is max	ximum			
								Comp	_
6	1	3	2	\	1		Day: 1	Sum	
5	1	-4		\	·		Row 1 Row 2	6 3	
2	1	•	1 -3	\	-2		Row 2		
2	3	5 -3	-3 4	\	3 3			1	
	3	-3	4	\	<u> </u>	<u> </u>	Row 4	4	
	-	1 >	/	3	٧		2 7		-
	6 W		\	3			2 Z	=	:1
	6 W		\	3	<u>'</u>		2 Z	=	1
	6 W 5 W	6 >		-4			1 Z	=	-2
			(Υ				
	5 W	6 >	(-4	Υ		1 Z	=	-2
	5 W	6 >	(-4	Y Y		1 Z	=	-2
	5 W 2 W	6 <mark>></mark> -1 >	(-4 5	Y Y		1 Z -3 Z	=	-2
	5 W 2 W	6 <mark>></mark> -1 >	(-4 5	Y Y		1 Z -3 Z	=	-2
	5 W 2 W	6 <mark>></mark> -1 >	(-4 5	Y Y		1 Z -3 Z	=	-2

 -	VA /	v		-
 Terms		Х	У	Δ
 LET	0	0 22222222	0	0
 1	0.166666667	-0.333333333	0.6	0.75
 2	-0.32777778	-0.197222222	0.916666667	1.366666667
 3	-0.714351852	0.323148148	1.511666667	1.749305556
 4	-1.226126543	0.978186728	1.999953704	1.998564815
 5	-1.662529578	1.688647119	2.485226852	2.129388503
 6	-2.067184114	2.354027799	2.880374357	2.178699588
 7	-2.392091675	2.946453068	3.204898958	2.178351975
 8	-2.652975649	3.433617038	3.453138468	2.139880255
 9	-2.845465492	3.82292531	3.63184182	2.091128897
 10	-2.983451428	4.110594308	3.757448597	2.029420129
 11	-3.073630059	4.319605233	3.83315151	1.976866431
 12	-3.128798771	4.453981651	3.879492929	1.921974737
 13	-3.156068319	4.539998472	3.895500681	1.883532844
 14	-3.165594367	4.579801912	3.900546728	1.844660816
 15	-3.161793955	4.597582989	3.888994619	1.823355796
 16	-3.151879739	4.590265409	3.878247657	1.7994557
 17	-3.137319963	4.578822271	3.858478398	1.791926556
 18	-3.123018429	4.554764475	3.845848373	1.778402077
 19	-3.108185625	4.536680593	3.827201513	1.779822138
 20	-3.096321568	4.511652006	3.818503651	1.771983502
 21	-3.085188327	4.497273157	3.804049129	1.778299518
 22	-3.07766993	4.477306439	3.800509673	1.772676143
 23	-3.070697957	4.4696187	3.790134946	1.78123739
 24	-3.067083053	4.455465363	3.790945357	1.775736163
25	-3.063295627	4.453910088	3.783367992	1.785151522

GAUSS S	<u>EIGEL</u>								
4*4 Matrix									
LEADING D	IAGONAL D	OMINANCE							
				NG DIAGONAL DOMINANCE					
	6	1	3	2	\	1			
	5	6	-4	1	\	-2			
	2	-1	5	-3	<u>\</u>	3			
,	2	3	-3	4	\	3			
EQ1:	6	W	1	X	3	Υ	2	Z	=
		14/		V		.,	4	_	
EQ2:	5	W	6	X	-4	Y	1	Z	=
EQ3:	2	W	-1	V	5	V	2	7	
EQ3:	2	VV	-1	X	5	Y	-3	<u> </u>	=
EQ4:	2	W	3	V	-3	V	4	7	=
LQ4.		VV	5	^	-3	1	4	_	_

	·	:	•	i	•	
		ļ				
		Terms	W	Х	У	Z
		LET	0	0	0	0
		1	0.166666667	-0.472222222	0.438888889	1.35
		2	-0.424074074	0.087654321	1.597160494	2.094166667
		3	-1.344578189	1.502894376	2.694910151	2.316300926
		4	-2.203371113	2.913365874	3.453802176	2.257012783
		5	-2.798132995	3.924810149	3.858422897	2.099276059
		6	-3.116438493	4.486101333	4.003361299	1.946164221
1		7	-3.231418945	4.704062617	4.001078634	1.838471486
		8	-3.230706915	4.719896271	3.939344912	1.779939938
-2		9	-3.18296848	4.648713685	3.870894092	1.758119545
		10	-3.129605842	4.562247672	3.819163598	1.757489866
3		11	-3.0891197	4.494127171	3.788967234	1.765689897
		12	-3.065401444	4.452864376	3.776147391	1.775162983
3		13	-3.055272086	4.434297835	3.774066191	1.78246231
		14	-3.053570171	4.430275552	3.776960565	1.786798845
		15	-3.05579249	4.43333431	3.781063165	1.788692886
		16	-3.05898493	4.438414071	3.784492518	1.7890513
		17	-3.061665704	4.442874548	3.786671971	1.788680919
		18	-3.063375383	4.44581398	3.787721501	1.788118332
		19	-3.064202525	4.447296716	3.788011352	1.78763724
		20	-3.064434209	4.447763202	3.787908668	1.787326203
		21	-3.064356935	4.447682191	3.787674934	1.787173025
		22	-3.064175507	4.447400708	3.78745416	1.787127842
		23	-3.064003145	4.447117421	3.787301448	1.787139593
		24	-3.063883492	4.446913943	3.787219941	1.787171245
		25	-3.063819376	4.4468009	3.787190677	1.787202021
	•	•		•		

NON LEADI	ING DIAGOI	VAL DOMIN	ANCE						
11011 227121	110 51/1001	.,	7.1.402						
									Sum
	5	6	-4	1	\	-2		Row 1	3
	6	1	3	2	\	1		Row 2	6
	2	-1	5	-3	\	3		Row 3	1
	2	3	-3	4	\	3		Row 4	4
					-				
Using The I	F statemen	t AND MAX	, the cells are	swapped where t	he first column is	maximum			
									Sum
	6	1	3	2	/	1		Row 1	6
	5	6	-4	1	/	-2		Row 2	3
	2	-1	5	-3	/	3		Row 3	1
	2	3	-3	4	\	3		Row 4	4
EQ1:	6	W	1	X	3	Υ	2	Z	=
EQ2:	5	W	6	X	-4	Υ	1	Z	=
EQ3:	2	W	-1	X	5	Υ	-3	Z	=
EQ4:	2	W	3	X	-3	Υ	4	Z	=

ļ						
		Tarres	\A/	V	v	7
		Terms		X	У	
		LET	0.16666667	0 47222222	0 43000000	0
		1	0.166666667	-0.472222222	0.438888889	1.35
		2	-0.424074074	0.087654321	1.597160494	2.094166667
		3	-1.344578189	1.502894376	2.694910151	2.316300926
		4	-2.203371113	2.913365874	3.453802176	2.257012783
		5	-2.798132995	3.924810149	3.858422897	2.099276059
		6	-3.116438493	4.486101333	4.003361299	1.946164221
		7	-3.231418945	4.704062617	4.001078634	1.838471486
		8		4.719896271	3.939344912	1.779939938
		9		4.648713685	3.870894092	1.758119545
		10	-3.129605842	4.562247672	3.819163598	1.757489866
		11	-3.0891197	4.494127171	3.788967234	1.765689897
		12	-3.065401444	4.452864376	3.776147391	1.775162983
		13	-3.055272086	4.434297835	3.774066191	1.78246231
		14	-3.053570171	4.430275552	3.776960565	1.786798845
1]	15	-3.05579249	4.43333431	3.781063165	1.788692886
		16	-3.05898493	4.438414071	3.784492518	1.7890513
-2		17	-3.061665704	4.442874548	3.786671971	1.788680919
		18	-3.063375383	4.44581398	3.787721501	1.788118332
3		19	-3.064202525	4.447296716	3.788011352	1.78763724
		20	-3.064434209	4.447763202	3.787908668	1.787326203
3		21	-3.064356935	4.447682191	3.787674934	1.787173025
		22	-3.064175507	4.447400708	3.78745416	1.787127842
		23	-3.064003145	4.447117421	3.787301448	1.787139593
		24	-3.063883492	4.446913943	3.787219941	1.787171245
		25	-3.063819376	4.4468009	3.787190677	1.787202021