Universidad Mariano Gálvez de Guatemala Boca del Monte

Ingeniería en Sistemas. Ciclo II, "c" Jornada Sábado.

ALGEBRA LÍNEAL HENRRY WALDEMAR SONTAY CHAN



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9. Reducir a la forma escalonada

$$i)A = \begin{bmatrix} 1 & 3 & -1 & 2 \\ 0 & 11 & -5 & 3 \\ 2 & -5 & 3 & 1 \\ 4 & 1 & 1 & 5 \end{bmatrix} \qquad ii)A = \begin{bmatrix} 0 & 1 & 3 & -2 \\ 0 & 4 & -1 & 3 \\ 0 & 0 & 2 & 1 \\ 0 & 5 & -3 & 4 \end{bmatrix}$$

$$ii)A = \begin{bmatrix} 0 & 1 & 3 & -2 \\ 0 & 4 & -1 & 3 \\ 0 & 0 & 2 & 1 \\ 0 & 5 & -3 & 4 \end{bmatrix}$$

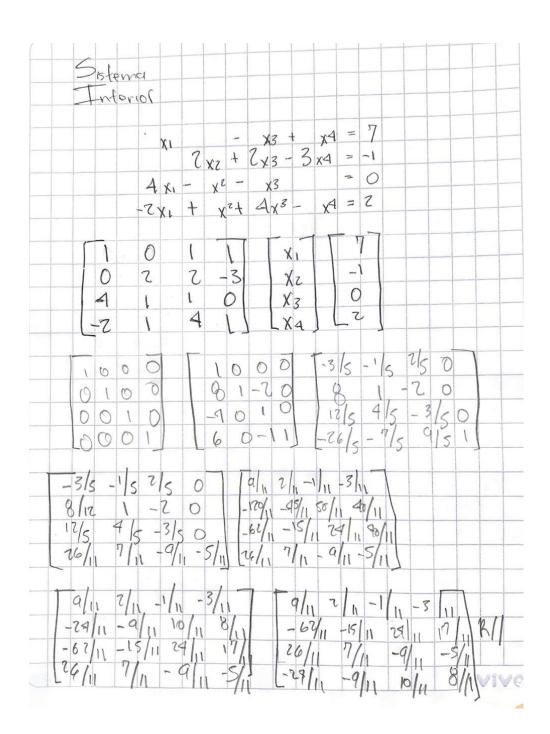
Escalonada		
A 1 3-1 7 0 11-5 3 2 -5 3 1 4 1 1 5	h3-1-2) R1-7R3 1 3-1 2 0 11-5 1 0-11 5-3 4 1 1 5	1 3 -1 2 0 11 -5 1 0 -11 5 -3 0 -11 5 -3
h2 (1/1) R2-7h2 1 3-1 2 0 1-5/11 1/11 0-11 5-3 0-11 5-3	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	h31 (1) h2+1/3 1904/1911 015/111/11 1000-2 0-15-3
hat (11) h2 - 12 h2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	h3. (/2) k4+k3 1 0 4/11 rq/11 0 1 -5/11 /11 0 0 0 0 -7	0 1 -5/11 1/11 0 0 0 -7
1 0 4/1 1 3 - 5/11 0 0 0 0 - 1	- hr k4+(2)k2- 0	0 6/

0 1 3 -7 0 4 -1 3 = 0 0 7 1 0 5 -3 4	R2+ (A) An-842 10 1 3 -7 00 -3 11 00 7 1 05 -34	13-10 p. 7 p. 3 10 1 3-2 00 0 -3 11 00 0 2 1 05 -3 4
har(-5) 61-764 0 1 3 - 2 0 0 + 3 11 0 0 7 1 0 0 18 14	h2 v (-/3 h3-Fh2 0 1 3 -7 1 0 0 1 -11/13; 0 0 7 1 0 0 -18 14	h1+(-3) k2-7 k1 0 10 7/13 0 0 7 1 0 0 7 1 0 0 7 1
M34(-2) M2-7 M3 10 10 7/13 0 0 1 -11/13 0 0 0 35/13 0 0 -18 14	10 7/3 0 0 1 -11/13 0 0 0 35/13 0 0 0 -16/13	h3 1 3/8 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Mix (-7/13) R3-7/h1 0 1 0 0 0 1 -11/13 0 0 0 -16/13	B2 + (1/13) B2 -7 B- 0 1 0 0 0 0 0 1 0 0 0 0 1 0 0 0 0 -16/13	10100 0000 0000 0000

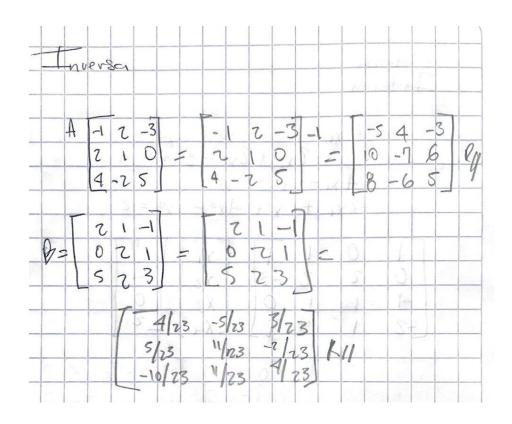
10. Dado el Sistema:

$$x_1$$
 $-x_3$ $+x_4$ = 7
 $2x_2$ $+2x_3$ $-3x_4$ = -1
 $4x_1$ $-x_2$ $-x_3$ = 0
 $-2x_1$ $+x_2$ $+4x_3$ $-x_4$ = 2

Resolver el sistema anterior por $x = A^{-1}B$



11. Hallar la inversa de:



12. Evaluar el determinante de cada matriz:

a)
$$\begin{bmatrix} t-2 & 4 & 3 \\ 1 & t+1 & -2 \\ 0 & 0 & t-4 \end{bmatrix}$$
 b) $\begin{bmatrix} t-1 & 3 & -3 \\ -3 & t+5 & -3 \\ -6 & 6 & t-4 \end{bmatrix}$ c) $\begin{bmatrix} t+3 & -1 & 1 \\ 7 & t-5 & 1 \\ 6 & -6 & t+1 \end{bmatrix}$

c)
$$\begin{bmatrix} t+3 & -1 & 1 \\ 7 & t-5 & 1 \\ 6 & -6 & t+1 \end{bmatrix}$$

Veterminante	5	
A 1 + - Z 4 3		
0 0 +4	= (+-7)(++1)(+-4)+4(-7)0 $0(++1)3-0(-7)(+-7)$	+ 3 x 1x6
V 11 +3-5+3	$0(t+1)3-0(-7)(1+7)$ $x \times 4 = t^3 - 5t^2 - 2t$ $-2t + 24$	+ 24
2	00 (1/4)	
t-1 3 -3	(t-1) (t+5) (t-4)+3 (-	3) (-6)
-3 t+5 -3 -6 6 t-4	= + (-3)(-3)(-1)(-4)(-3)	5)(-3)
	= £3-12±-16	15

