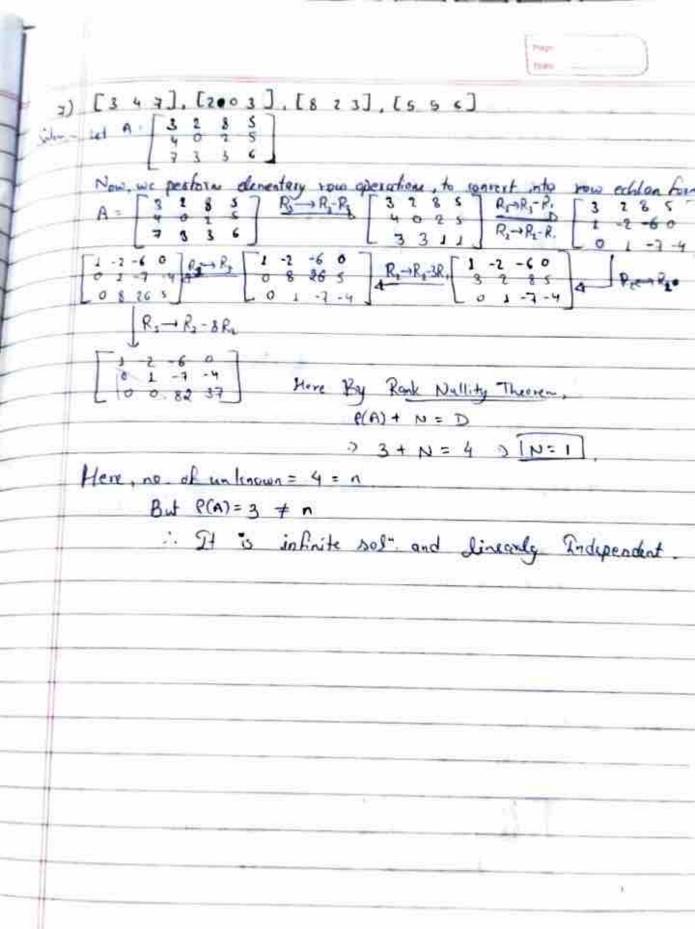
Date	Linear Algebra	Program.
L/adams do	Assignment -2	
	Broblems: - Line Are the following sets of vectors . line	early ladged ant or dependent?
1). Solvei	[100], [110], [11] Let $u_1 = (1.00)$, $u_2 = (1.1.0)$, $u_3 = (1.1.00)$, $u_4 = (1.1.00)$, $u_5 = \begin{bmatrix} 1 & 0 & 0 \\ 1 & 1 & 0 \\ 1 & 1 & 1 \end{bmatrix}$	r III
	: Det(A) = 1(1-0) -0+0 = 1 +0 : It is linearly independent	X -1
John J	Different methods to Find LI & LD:-	
- 0	To Garlen checks	
	· if the only sol is C, V, + C, V, + C, V,	+ + c,v, =0 is
	G=G=-=Cn=0, then LI.	
	Matrix Determinant method: Eventors	as column I
6	Matha Determinant Misso	
	If det(A) \$ 0 , then LI	
C	Row Reduction (Coursen Elimination)	
	AB [ab o] P(A)	
0	Rank Nullity Theorem	
	If the rank of the negtrix formed	by the vectors equal no of nec
	they are linearly independent.	
	eq: v = [1,2], v = [3,4], for	m meetrix & calc. its reals
-	0	Marina & Colorida
	(P(A) + N = D)	A- 13 R-R-18 13
-	Rook Nulling Dimension	
	Average Material	e(a)= 2.
		Dimension (no al cal) =
		- N = D - P(A)
		= 2 - 2
		= 101

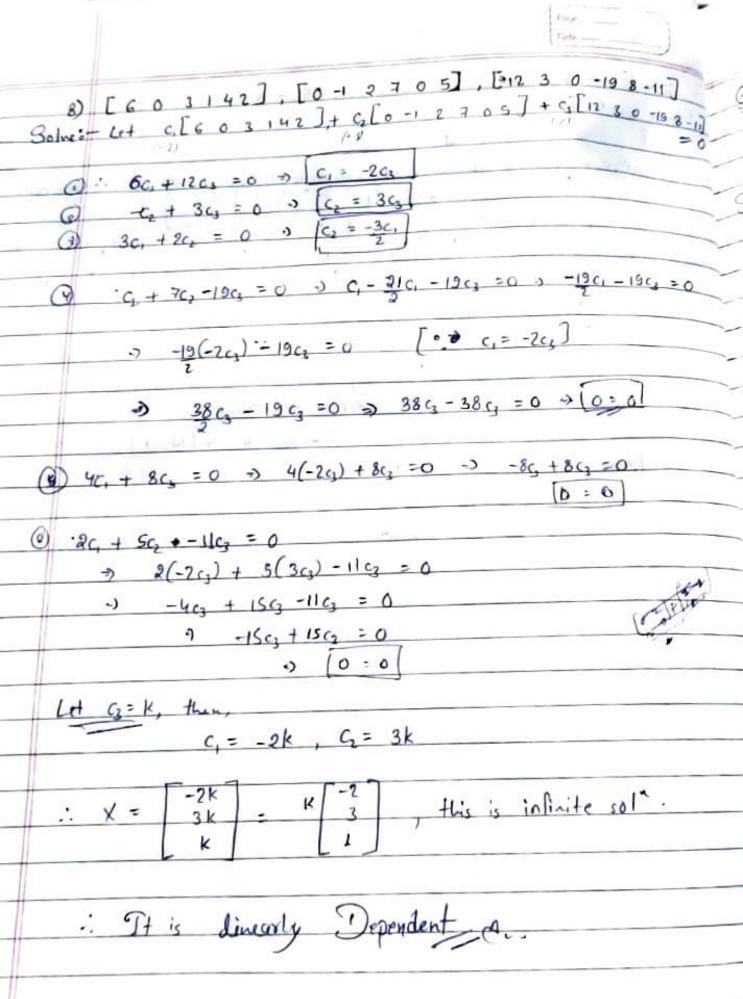
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5) [2-4],[19],[35] Solvit Lot a [2-4] + b[1,0] + c[35] = a - 20+6+3c = 0 -0 1 b= 3c-29 -- -49 + 96 + SC = 0 - (E) . PJ b in (1) -4 a + 9(-3e - 2a) + se = 0 -) -40 - 27 c - 189 + SC = 0 ·) -220 4 -22 c = 0) | a = -G So, from @, b = -30 - 29 = -54 Now, here we have $X = \begin{bmatrix} -1 & 1 & 1 \\ -1 & 1 \end{bmatrix}$ is a non-trivial sale Hence, it's a linearly dependent (set of vector) 6) [3-204], [5001], [-6101], [2003] golwin Hom, C,v, + G,v, + GV = 0 for scalars 4; c, c, where y, v, v, are given vectors 1. 3c, - 2c2 + 4c4 = 0 - 0 Sc, + C4 = 0 > [C4 = -SC] -60, + C2+C4 = 0 -(11) ec, + 3c, = 0 -0 2c, + 3(-sci) = 0 1 2c, -15c =0 1 1c =0 Now, Put Cy in (), : | Cy = 0 Now, From (1) & (1) , 2 (3x) - 2cz + 4cy) = 0 -6c, + c2 + c4 . 0 - C2 + 15 C4 = 0 -> C2 = SC4 : C4=0 -) [C2=0] Since, C = C2 = C3 = C4 = O cacher · Cincarly Independent





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