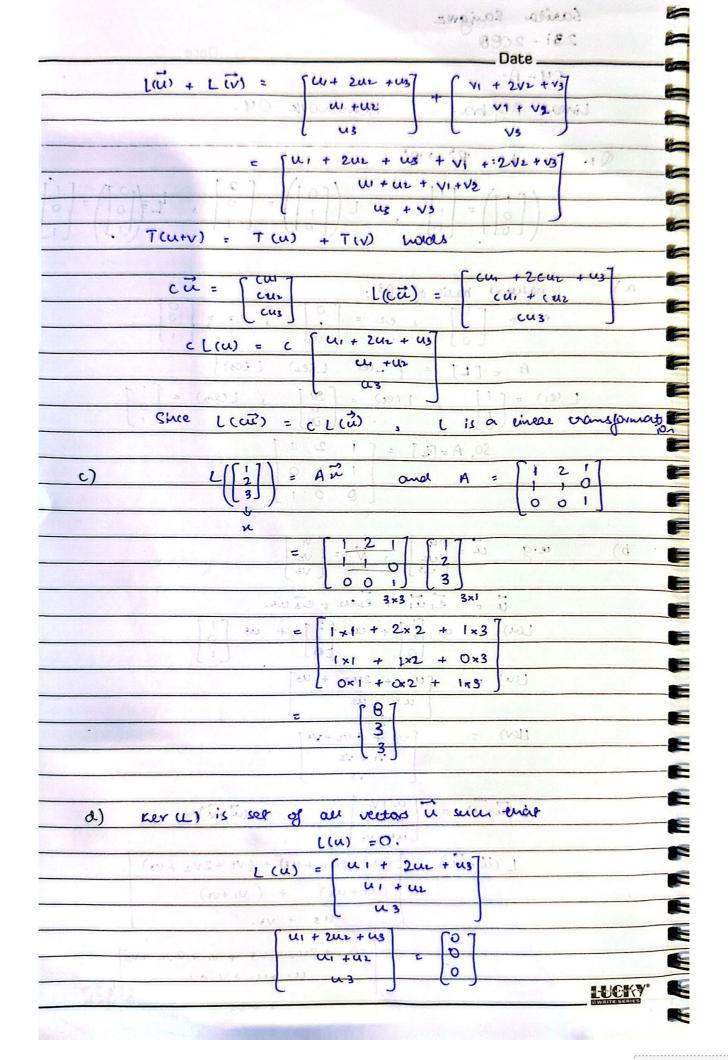
THEKY.



Date
u1 + 2m + u3 = 0 + = 0
u1 + u2 = 0 Ø
u, =0 -(3) (put in eq.1)
10 10 W 1 + 2U2 = 0
$u_1 + u_2 = 0$, $u_1 = -u_2$
uz = 0 mande ui =0. In marine 12
Trivial sociation. So ker(L) = {0}.
())) is some (with Bosis for Ker (L) = { }.
There are no theory independent victors that can
span the zero subspace.
e) Range (L) is column space of A.
$A = \begin{bmatrix} 12 & 1 \\ 1 & 0 \end{bmatrix} \xrightarrow{\Omega_2 - \Omega_1} \begin{bmatrix} 1 & 2 & 1 \\ 0 & -1 & -1 \\ 0 & 0 & 1 \end{bmatrix}$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
Basis of WLA = Basis of Range 1 =
pivot columns of A
i-e {[1] [2] [1]}
Basis for Range(1): 1, 1, 0
1). L'is one-to-one as there are no free variables
so each L(u) is an inage of any one i.
Lis also one to one because ker of i only contains
the zero vector.
g) A was a pivot in every row, so for each
vi in 1R³, Avi = L(u) is consistent. So
L is outo.
and made
verter (Linear if 1. T(u+v) = T(u) + Tv) and T(ui) = cT(i)
is not = [x1] = [x1], \(\vec{u} = [u,7], \(\vec{v} = [v] \)
wired ne las [ve
because T cu+v) = [u1+v1] and Trois + F(v) = [u1] + [v2]
ENVENTREE BREE
[uztvz] to scentvi]

___ Date. linear of T (u+v) = T(u) + T(v) h) c T (W) T (al) . - 10 cost in ea 0 = 15 is not inear as T 5 2 20 + 1 M 1st component is the following: the Triviou sourivat in kut (1/4 in). c (4,3) (cui) 2= 2200 10+ 100 T(u) that and willing independent Tues one us mas sout bate com = enficunt free the cA Topungop = mempouis 7 00 POLIS OF WUA POLIS OF Canal ! 9.1 bosts oby danger is on to one as there are wo free washers 1 (a) 11 aux NU.00 white ONE also one to one transmise dialia use of L and the sex aller. use a ping in every you, so for earner (1)