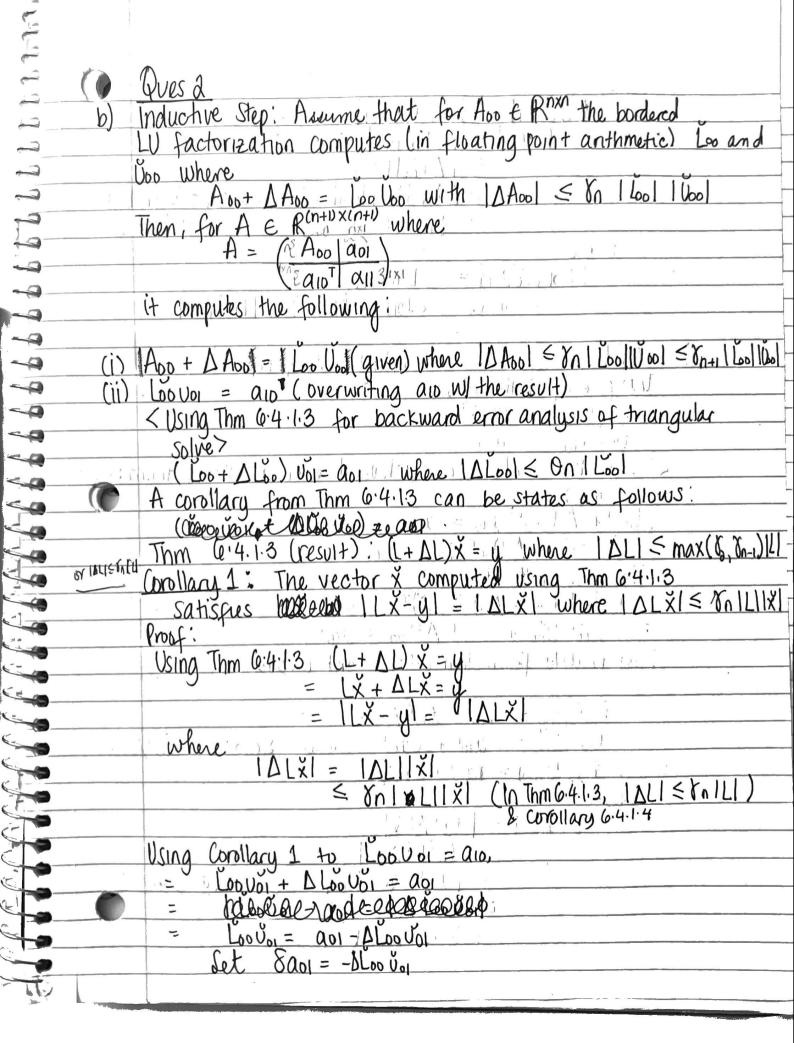
		d
		A HINTON A PROPERTY
Δ 0.		3
ques 2:		-5
Q)	Base Case: n=	5
	When m=1. A is a 1x1 matrix	5
	$A = \alpha_{II} $	-
	The scalar oil would be stored in U11 Assuming there is	-5
	THE STATE OF THE PERSONAL OF THE PARTY OF THE PERSONAL PROPERTY OF THE	-=
	v	-5
	UII = VII < Under ACM>	-5
	1+6	- E)
	U11 = \(\alpha \) \(\text{Lemma (6.3.a.1)}	
	(++)	5-6
	Un (1+01) = 011 < multiply (1+01) on both sides>	5
	Alstribute?	
	UII = $\alpha_{II} - U_{II}\theta_{I}$ < subtract $U_{II}\theta_{I}$ on both sides?	
	$v_{11} = \alpha_{11} + \delta \alpha_{11}$ $\gamma \cup (\delta_{11}) = -v_{11} \beta_{11}$	2
	Where Say = vii Oi	8
	Hence; $L(l) = A + AA$ where $l = [1]$	
Į.	Wide L	
	and	1
		-
	[δαιι] = 10, υπ] = 10,11υπ]	_~
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	= PARIORION POLICIO SOLARGO LICITAR DI PRIVILIDA	-
	= 80 11 1 vil	
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	Hence, Soul & Br 12/10	
	equivalently IDAI < Yn IIIIVI	
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Hence, property of the property ence,

Loo Vo1 = | αοι + δαοι |

Where | Sαοι | = | Δ Loo Vo1 |

= | Δ Loo | | Vo1 |

≤ | δη | Loo | | Vo1 |

≤ | δη | Loo | | Vo1 |

Ε (4.1.4) (ao1 + 8ao1 = [Loovoi] (a) where | Saul < Kaglos 8n+ | Lool | Ubil. Chot Upo = alot (overwriting alot w result)

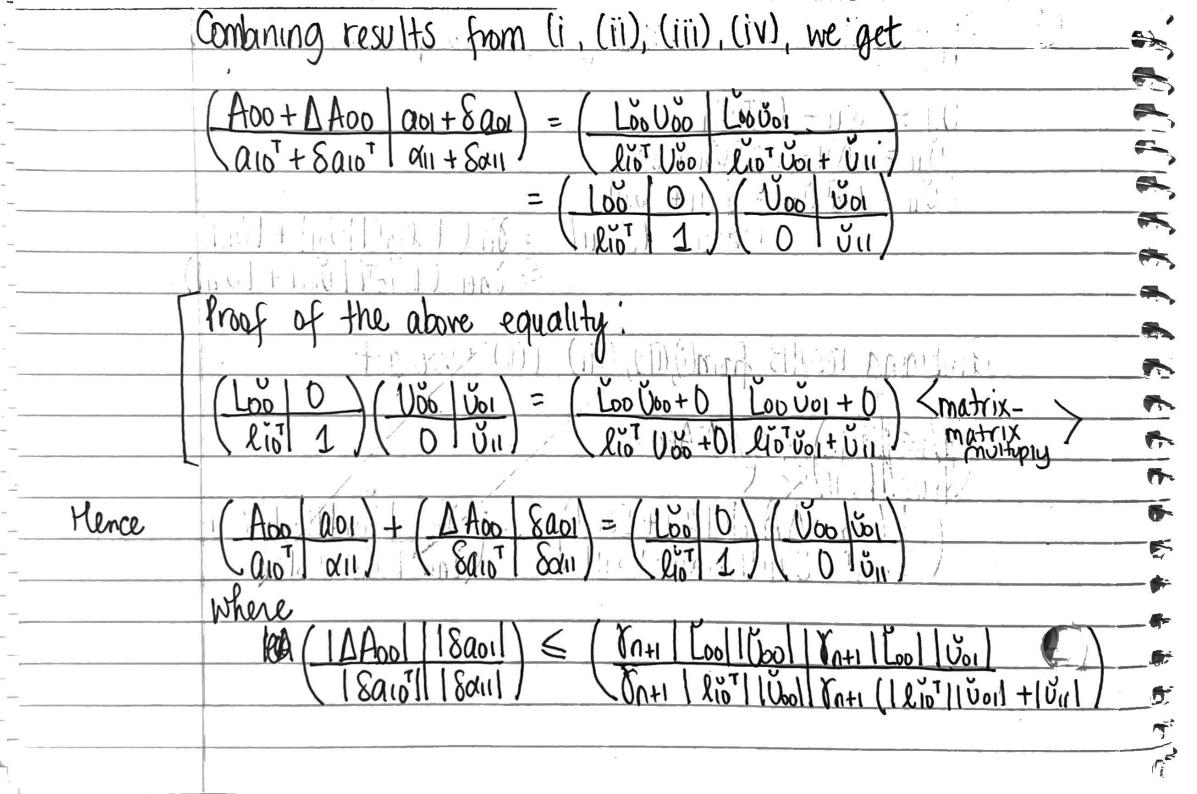
Transpose of both sides

(list Upo) = (alo)

U60 lio = alo (ii) 2 ET. LUsing Thm 6.4.1.3 for backward error results of triangular **A** Solve > 100 1 100 100 5 (Uoo + DUoo) lio = alo 2 R Voot lip + D Voot lip = aio 8 Transpose both sides 9 (Voot lin + A Voot lin) = (ain) T lint Von + lint A Voo = aint 9 Using results from Thm 6:4.1.3 and corollary 1: liot Voo = alot - liot DVoo liot Upo = aiot + Saiot where Saio7 = - RIOTAUGO Mence & lio Vool = laio + Saio 1 where List DUSO 8010T = = [ROT | | DUOD | Carollary 6,4.1.4) 8n+1 1 Lio 1 1000

(III) Using reference from 6:4.3 (Groal Oriented & Modular Stability analysis), Using Thm 5:1 of the above reference, we have

For given v = y - Ax, where $A \in \mathbb{R}^{m \times n}$: $y, v \in \mathbb{R}^{m}$, $x \in \mathbb{R}^{n}$ Using flushing point arithmetic v = y - Ax + 8v where $|8v| \leq r_{n}|A||x| \approx +$ Ra-f: 1 Sul < Yn Allx &+ < 8h (IAIIX + IŬ) In the above theorem, if we allow 8U = 8y, then we obtain Corollary 2 to obtain backward error result: U = y - Ax + 8y where $8y \le rn(|A||x| + |U|)$ Corolland: Applying the above Corollarya to computation in (iii) U1 = α11 - LioT Vo1 + δα11 COST COMA + SCA 1 U11 + LIDT VOIT = 10/11 + 6011 where 18 α11 ≤ 80 (1 kg 1 | Vo1 + | VIII) ≤ 80+1 (| V10 1 | V10 1 + | V11 1). While to a mile off



LOO VOO LOO VOI RIOT VOO RIOT EVOI + VII < Defn6.2.6.1> ≤ Vn+1 $\begin{array}{c|c}
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 & & &$ <matrix multiplication> $\Delta A_{00} | \delta a_{01}$ $| \leq \delta_{n+1} |$ · By Principle of Mathematical Induction, the result holds true for all a