$A^{T}A = \begin{pmatrix} 35 & 44 \\ 44 & 56 \end{pmatrix}$ ATb = (12 => x= (1) 通解为 3. H为正文建模 (三) ||Hx||2 = ||X||2 = -) 2= $=\frac{1}{\sqrt{12}}(0,-5,0,0,3,4)^{T}$ 1-2wwT = /25 20 $= \sqrt{x} \times = \sqrt{|x|^2 + |x|^2}$ 由二慈范数的正支强性: 11 Qx/12 = 1/x/12 iと ý= (y1,0) = Qズ , :: |y1 = 11×112 $\frac{|X_1|}{||X_1||_2}, \quad CGIR \Rightarrow C = \frac{|X_1|}{||X_1||_2}$

	3别寻找 P. Q, Px= PnPn+P2x=e1
	$Q'y = 2n2m - 2y = e_1$
2 17	Pi, Qi 为 Givens 变换
	耳又 2= Q, TP 即可
	The state of the s
7.	$w = \{0 \vec{x} = \vec{x} = \vec{y} $
	$w = \begin{cases} 0 & \vec{x} = \vec{y} \vec{p} \\ \frac{\vec{x} - \vec{y}}{\ \vec{x} - \vec{y}\ _{2}} \end{cases} else$
	11x-2y112 else
<u>}</u> -	
12	L = L(0) = { [1] }
	一步: 機 找 Householder 爱挟 H., S.t.
	1 ?) (?)
	H, Lin = Lin , 显然 H,在消掉名几列的后m-n分时 ~
	1000 D变上的前 n-1台
	() () () () () () () () () ()
分	ملا ما
<u>N</u>	(号: 找 Hz 5.t.
	1/2 january
	((µ)
	1 (K-1) 1 (K-1
	(121) 村,不改支上的第四十2~17
	lm, n-k+1
	(ES) O) S)
इ ने	L= Hn Hny ··· H, L 满足条件

由8,日已多矩阵 Q, s.t. $QL = \begin{pmatrix} L_1 \\ 0 \end{pmatrix} m - n$ il 2Pb = (C1) 故 11Ly-Pb112 = 112CLy-Pb)112 = 11(1g)-Cc2)112 $=(1|L_1y-C_1||^2+1|C_2||^2)^{\frac{1}{2}}$ = $||C_2||_2$ 鼓山z=C1 为上述LS问题的解 国理: 11Ax-b112 = min 11Ay-b112 yer? = min 11 LUy - Pb 112 (到支元分) = yell 11 Li Uy - Cill + 11 Cill 2 故 Ux= Z为上述 LS问题的解 10. ATA 不一定可逆,故不能直接 不= CARD "A"b 考虑 A的 SVD分解 (详见书 P204 定理 7:1.5) A: PIQ, P.Q 正文阵 其中三=diag(6,,62,...6x,0,0,,...0), 612627...26x \$0 :- 11 Ax-b112 = 11 PZQx - b112 = 11 ZQx - PTb112 AXA = PI(QxP)IQ, (Ax) = (PIQx) = XTQTIPT 故这 剪= QXP, C= PB, Z= Qx : ||Ax-b||2 = || IZZ-C||2 AXA=A () EXELE EYE= E (AX) T = AX (>) (EY)= EY x = Xb (=> 2= Yc



		•	THE MOMENT RECORDS .	
记	L=	(b _k 0.0)	$= \begin{pmatrix} \Sigma_1 & k \\ 0 & m-k \\ k & n-k \end{pmatrix}$	HA

$$\Sigma_1(Y_1,C_1+Y_2,C_2)=C_1$$
 $\forall b \in \mathbb{R}^m$ 成立
由b的任意性 => ($\Sigma_1Y_1=I_K$) $\Sigma_1Y_2=0$

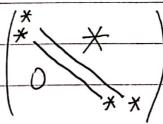
$$:= \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{j=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum$$

$$\frac{(\overline{\Sigma}Y)^{T}}{(Y_{12}^{T}\overline{\Sigma}_{1}^{T})} = \begin{pmatrix} Y_{11}^{T}\overline{\Sigma}_{1}^{T} & 0 \\ Y_{12}^{T}\overline{\Sigma}_{1}^{T} & 0 \end{pmatrix} = \begin{pmatrix} I_{k} & 0 \\ 0 & 0 \end{pmatrix} = \overline{\Sigma}Y$$

$$\Rightarrow$$
 AXA= A, $(AX)^{T} = AX$

①光将A或为如图形状

11.





再自上而下消去次对角线的 方法:在常姆村教找 Gir St. Gir Gk = (1/4-1 Gk 1 n.k-1) N-1号后化为上三角R 故 2T= (G'm···G')(Gn-2···G1) P.S. 学习辅导的方法显然是错的 => => 11 A(x+2w)-b1/2 /2=0 =0 XG XLS YWE IR" 2wTATCAX-b) =0

AT(Ax-b)=0