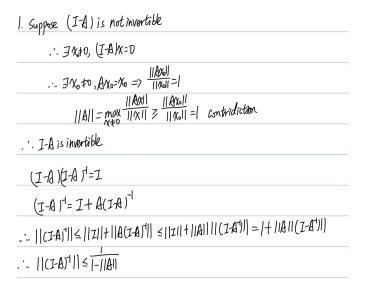
Numerical Analysis, 2020 Fall Homework 6

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Due on 23:59 Nov 4, 2020

Problem1



Problem2

Problem3

the program has been implemented in LR-decomposition.py

Problem4

(4) Amom is a symmetry positive band-smutured motors with bondwith 2n+1 for jei-ntl or joithaij=0

$$A = LDL^{7} = \begin{pmatrix} 1 & 1 & 0 \\ 121 & 1 & 0 \\ 121 & 1 & 1 \end{pmatrix} \begin{pmatrix} d_{1} & 0 & 0 \\ 0 & d_{1} & 1 \\ 1 & 1 & 1 \end{pmatrix} \begin{pmatrix} 1 & 1 & 0 \\ 1 & 1 & 0 \\ 1 & 1 & 1 \end{pmatrix}^{7}$$

- ·! A is symmetry positive
- ... All the leading principle minor Di of Azo. Di= | an--an |, i=1,--m
- .'- di= Di70 di = Di di = Di 70 7=2,---m

- -! A's bandwidth = m+1
- -'- Y jzj-ntl or j≤j+n-1, aij \$0
- . 621d1 \$0, 62170

- Ln+1 =0 Lm=0 Longidi =0
- ·! Lisalso bard-structured matrix
- . the bandwidth of Lis ntl