%metodo eliminação gaussiana

clear

clc

A0=[1 4 9 16;4 9 16 25; 9 16 25 36; 16 25 36 49]

b=[30 54 86 126]';

A=[A0 b]

ne=length(A0); %n elementos diagonal

for i=1:ne

p=A(i,i);

for j=i:ne+1

A(i,j)=A(i,j)./p;

end

for l=i+1:ne

k=A(l,i);

for j=1:ne+1

A(l,j)=A(l,j)-A(i,j)\*k;

end

end

A

end

A

%metodo khalesky

clear

clc

A=[3 1 -1 2;-5 1 3 -4; 2 0 1 -1;1 -5 3 -3];

b=[6 -12 1 3];

L=zeros(4)

U=zeros(4);

for i=1:4

U(i,i)=1;

end

S=size(A);

si=S(1,1);

sj=S(1,2);

for j=1:sj

L(j,1)=A(j,1)

U(1,j)=A(1,j)/L(1,1)

end

for i=2:si

for j=i:4

Lacum=0;Kacum=0;

for k=1:j-1

Lacum=Lacum+L(j,k)\*U(k,i);

end

L(j,i)=(A(j,i))-Lacum

end

for j=i+1:4

for k=1:i-1

Kacum=Kacum+L(i,k)\*U(k,j);

end

U(i,j)=(1/L(i,i))\*(A(i,j)-Kacum)

end

end