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clear all
close all

n = [100:100:1000]';
N = length(n);

gcp = zeros(N,5);
gpp = zeros(N,5);
for i = 1:N
    for j = 1:5
        A = rand(n(i));
        [LU,p,q,gf,L,U]= lucp(A);
        gcp(i,j) = gf;
        [L,U,P,g] = lupp(A);
        gpp(i,j) = g;
    end
end

for k = 1:5
    plot(n,gpp(:,k),'bo');
    hold on
    plot(n,gcp(:,k),'r*');
    hold on
end

plot(n,0.3*(n.^0.5))
hold on
plot(n,0.25*(n.^(2/3)),'k--')
hold on
legend('gpp','gcp','0.3n^0.^5','0.25n^2.^3','Location','northwest')
title('Growth factor against n')
xlabel('n'); ylabel('Growth factor')

fprintf('As n increases, the growth factor gradually increases, however, it doesnot shoot up with n, but instead fit the two constat functions. \n Eve:

```

As n increases, the growth factor gradually increases, however, it doesnot shoot up with n, but instead fit the two constat functions. Even though, the growth factor computed with complete pivoting fits the constant curves better than, the one for partial pivoting. This because the upper triangular matrix obtained from complete pivorting is better than that obtained from partial pivoting



