
```

function [L, U, P] =luFactor(A)
%LU Decomposition of a Matrix
% This function decomposes a given matrix into a lower triangular
  matrix(L),an
% upper triangular matrix(U), and a pivot matrix(P). These matrices
  that
% are ouputted can be used to solve the original set of equations.
%   The decomposition is done by using partial pivoting and a form of
%   Gauss-Elimination.
%Inputs
% - A = Coefficient matrix
%Outputs
% - L = Lower triangular matrix;
% - U = Upper triangular matrix;
% - P = Pivot Matrix
[r,c] = size(A);
L=eye(r,c);
P=eye(r,c);
U=A;
for j = 1:r
    [~, m] = max(abs(U(j:r, j)));
    m = m+j-1;
    if m ~= j
        U([m,j],:)=U([j,m], :);    % interchange rows m and j in U
        P([m,j],:)=P([j,m], :);    % interchange rows m and j in P
        if j >= 2
            L([m,j],1:j-1) =L([j,m], 1:j-1);    % interchange rows m and j in
            columns 1:j-1 of L
        end
    end
    for i = j+1:r
        L(i, j)=U(i, j) / U(j, j);
        U(i, :)=U(i, :) - L(i, j)*U(j, :);
    end
    L=L
    U=U
    P=P
end

```

Not enough input arguments.

Error in luFactor (line 14)
[r,c] = size(A);

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