
```

function x = PartialPivoting(n, A)
% Use Partial Pivoting to solve the linear system
% Input: A - augmented matrix representing the linear system
%        n - number of unknowns
% Output: unique solution x

% Initialize multipliers
m = zeros(n, n);

% Initialize row pointers
NROW = zeros(1, n);
for i=1:n
    NROW(i) = i;
end

% Elimination Process
for i=1:n-1

    % Get pivot
    p = getPivot(A, n, i, NROW);

    % Check for unique solution
    if A(NROW(p), i) == 0
        disp('no unique solution exists');
        return
    end

    % Swap ith row with the pth row
    if NROW(i) ~= NROW(p)
        NCOPY = NROW(i);
        NROW(i) = NROW(p);
        NROW(p) = NCOPY;
    end

    for j=(i+1):n

        % Calculate row modifier
        m(NROW(j), i) = A(NROW(j), i) ./ A(NROW(i), i);

        % Modify row
        A(NROW(j), :) = A(NROW(j), :) - m(NROW(j), i) .* A(NROW(i), :);
    end
end

% Check for unique solution
if A(NROW(n), n) == 0
    disp('no unique solution exists');
    return
end

% Use backward substitution to find the solution

```

```
x = zeros(1, n);
x(n) = A(NROW(n), n+1) ./ A(NROW(n), n);

i = n-1;
while i >= 1

    sum = 0;
    for j=i+1:n
        sum = sum + A(NROW(i), j) .* x(j);
    end

    x(i) = (A(NROW(i), n+1) - sum) ./ A(NROW(i), i);

    i = i - 1;
end

end
```

Not enough input arguments.

Error in PartialPivoting (line 8)
m = zeros(n, n);

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