Chương 2: Giải hệ phương trình

Ngày 28 tháng 10 năm 2019

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```
% Solve the linear equation by Bisection method
close all;
clc;
clear all;

%------Input data of the problem------
% The Function f(x)
f=input('Enter the function (write before the function "@(x)(...
% The first approximation
x1=input('Enter the first approximation of the function:');
% The second approximation
x2=input('Enter the second approximation of the function:');
% The value of accuracy
epsilon=input('Enter the value of accuracy:');
%-----------------------------------%

%-----Main--------
steps=0;
if f(x1)*f(x2)>0
    % Tip(note)for the condition to use Bisection
    disp('It is not solved equation by Bisection')
```

```
    % The first approximation
    x1=input('Please to enter the first approximation of the fun
    % The second approximation
    x2=input('Please to enter the second approximation of the fu
elseif f(x1)*f(x2)==0
    % Tip (note) x1 or x2 is the root of the equation
    if f(x1)==0
        xm=x1;  % if x1 is the root
    else
        xm=x2;  % if x2 is the root
    end
else
    while((abs(x2-x1)/2)>epsilon)
        steps=steps+1;
        xm=(x1+x2)/2;
        if (f(x1)*f(xm)<0)
            x2=xm;
        else
            x1=xm;
        end
    end
```

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end
fprintf('The root of the equation using Bisection method is=%f\n


clc;
clear all;
close all;
% Input to factor matrix of systerm equations
A=[-5 1 16 -12;1 0 -4 3;0 -3 10 -5;4 8 -24 -3];
B=[-28;6;-2;1];
% Khu thuan
for k=1:(size(A,1)-1)
    for i=(k+1):size(A,1)
        c=A(i,k)/A(k,k);
       for j=k:size(A,1)
          A(i,j)=A(i,j)-c*A(k,j);
       end
       B(i)=B(i)-c*B(k);
    end
    A
    B
end
```

```
% Khu nguoc
x=zeros(1,size(A,1));
for i=size(A,1):-1:1
   d=0;
    for j=(i+1):size(A,1)
       d=d+A(i,j)*x(j);
    end
    x(i)=(B(i)-d)/A(i,i);
end
x
```

Lệnh size(A,1) trả về số dòng của ma trận A
Lệnh size(A,2) trả về số cột của ma trận A