```
%{
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Subject: Assignment2 Q3
 %}

clear all % Clear stored variables
clc % Clear the screen
close all % Close all previously created plots

% Any matrix A
A = [3 6 9; 1 5 3; 7 5 2]

% Starting vector
x0 = [1 0 0]
x0 = x0';

% Randomly assigning the value of error (Tolerance)
err = 5;

while err > (10^-6)
    % Algorithm for Power Method
    % (i+1)th value of eigen vector
    x1 = A*x0;
    lambda = norm(x1,Inf);
    x1 = x1 / lambda;
    % Finding the value of error
    err = norm(x1) - norm(x0);
    x0 = x1;
end

'Largest Eigen Vector is'
x1 = A*x0;
lambda = norm(x1,Inf);
x1 = x1 / lambda

'Corresponding Largest Eigen Value is'
z = (x1'*(A*x1))/(x1'*x1)


A =

     3     6     9
     1     5     3
     7     5     2


x0 =

     1     0     0
```

```
ans =

Largest Eigen Vector is


x1 =

    1.0000
    0.4358
    0.8574


ans =

Corresponding Largest Eigen Value is


z =

   13.0793
```

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