%Power Method

clear all;

clc;

format long

a = [6 5 -5;2 6 -2;2 5 -1];

x0 = [1;2;3];

n = 100;

fprintf('Power Method')

fprintf('Initial point, x0 = (%d,%d,%d)\n',x0(1),x0(2),x0(3))

fprintf('iter x1 x2 x3 ratio\n')

for i=1:n

x1 = a\*x0;

r = x1(1)/x0(1);

x0=x1/norm(x0, inf);

p1 = x0(1);

p2 = x0(2);

p3 = x0(3);

fprintf('%3d %f %f %f %f\n',i,p1,p2,p3,r)

end