

% Worksheet 7, Problem 1 setting up Forward Euler vec

function [t,v] = forward_euler_vec(f,tspan, ic, nsteps)

t0=tspan(1);

h=(tspan(length(tspan))-tspan(1))/nsteps;

v=zeros(nsteps+1,length(ic));

t=zeros(nsteps+1,1);

v(1,:)=ic;

t(1)=t0;

for i=2:(nsteps+1)

t(i)=t(i-1)+h;

v(i,:)=v(i-1,:)+h.*f(t(i-1),v(i-1,:))';

end

end