f1 = @(t,x,Te,k) k\*(Te-x);

[t, y] = ode45(f1, [0:18],[25], odeset, -10,1/6);

plot(t, y,'-o');

function dT\_dt = room(t,x,Te,k)

dT\_dt = [0];

if (t >= 12)

Te = 3\*t - 46;

end

fprintf("At time %f the outside temp = %f\n",t,Te);

dT\_dt = k\*(Te - x);

end

[t, y] = ode45(@room, [0:18], [25], odeset, -10,1/6);

plot(t, y,'-o');