**% Name (first and last)**

**% CSC 2262**

**% cs2262xx**

**% Sample 5b**

**t = 0:.001:9;**

**u0 = [4000 200];**

**options = odeset('RelTol',1e-7,'AbsTol',1e-7);**

**[t u] = ode45('sample5bf',t,u0,options);**

**plot(t,u(:,1),'b',t,u(:,2),'r');**

**axis([0 9 0 10000]);**

**set(gca,'xtick',0:9);**

**set(gca,'ytick',0:1000:10000);**

**xlabel('t');**

**ylabel('Hare Population (blue) and Lynx Population (red)');**

**title('Sample 5b');**

**% function sample5bf**

**function f = sample5bf(t,uf)**

**K1 = 2;**

**K2 = 10;**

**C = .0012;**

**D = .0019;**

**S1 = .63;**

**S2 = .57;**

**H = uf(1);**

**L = uf(2);**

**f = zeros(2,1);**

**f(1) = K1\*H - C\*H\*L - S1\*H;**

**f(2) = -K2\*L + D\*H\*L - S2\*L;**