**% Name (first and last)**

**% CSC 2262**

**% cs2262xx**

**% Sample 6e**

**m1 = .8;**

**m2 = .6;**

**m3 = .5;**

**k1 = 4.3;**

**k2 = 5.1;**

**k3 = 4.6;**

**k4 = 5.4;**

**A = [ -(k1+k2)/m1 k2/m1 0**

**k2/m2 -(k2+k3)/m2 k3/m2**

**0 k3/m3 -(k3+k4)/m3 ];**

**A = -A;**

**[eigvec eigval] = eig(A);**

**t = 0:.001:8;**

**line1x = [0 8];**

**line1y = [0 0];**

**titles(1,:) = 'Sample 6e, Figure 1';**

**titles(2,:) = 'Sample 6e, Figure 2';**

**titles(3,:) = 'Sample 6e, Figure 3';**

**for(k=1:3)**

**w = sqrt(eigval(k,k));**

**c1 = eigvec(1,k);**

**c2 = eigvec(2,k);**

**c3 = eigvec(3,k);**

**x1 = c1\*cos(w\*t);**

**x2 = c2\*cos(w\*t);**

**x3 = c3\*cos(w\*t);**

**figure(k);**

**plot(t,x1,'b',t,x2,'r',t,x3,'g',line1x,line1y,'k');**

**axis([0 8 -.8 .8]);**

**set(gca,'xtick',0:8);**

**set(gca,'ytick',-.8:.2:.8);**

**xlabel('t');**

**ylabel('x1(blue), x2(red), x3(green)');**

**title(titles(k,:));**

**end**