```
clc;
                                                          clc;
clear;
                                                          clear;
clear all;
                                                          clear all;
lags = 1;
                                                         lags = 1;
tf = 500;
                                                         tf = 30;
t = linspace(0, tf, 1000);
                                                          t = linspace(0, tf, 1000);
sol3 = dde23(@ddefunc3, lags, @uhist, t);
                                                         sol3 = dde23(@ddefunc3, lags, @uhist,
sol4 = dde23(@ddefunc4, lags, @uhist, t);
                                                         sol4 = dde23(@ddefunc4, lags,
                                                                                              @uhist,
sol5 = dde23(@ddefunc5, lags, @uhist, t);
                                                         sol5 = dde23(@ddefunc5, lags, @uhist, t);
t3 = sol3.x;
                                                         t3 = sol3.x;
u = sol3.y;
                                                          u = sol3.y;
t4 = sol4.x;
                                                          t4 = sol4.x;
u2 = sol4.y;
                                                          u2 = sol4.v;
t5 = sol5.x;
                                                          t5 = sol5.x;
u3 = sol5.y;
                                                          u3 = sol5.y;
figure(2);
                                                         figure(2);
plot(t3,u);
                                                         plot(t3,u);
hold on
                                                         hold on
plot(t4,u2);
                                                         plot(t4,u2);
hold on
                                                         hold on
plot(t5,u3);
                                                         plot(t5,u3);
hold off
                                                         hold off
title('du/dx solutions')
                                                         title('du/dx solutions')
xlabel('x')
                                                         xlabel('x')
ylabel('u(x)')
                                                         ylabel('u(x)')
legend('\lambda = \pi/2-.01', '\lambda = \pi/2',
                                                         legend('\lambda = \pi/2-.01', '\lambda = \pi/2',
'\lambda = \pi/2+. 01', 'location', 'northwest')
                                                         '\lambda = \pi/2+. 01', 'location', 'northwest')
axis([0,tf,-3,3])
                                                         axis([0,tf,-3,3])
grid
                                                         grid
function du = ddefunc3(t, u, UL)
                                                         function du = ddefunc3(t, u, UL)
lam = pi/2 - .01;
                                                             lam = pi/2 - .01;
 du = -lam * UL;
                                                             du = -lam * UL;
                                                            end
end
function du2 = ddefunc4(t, u, UL)
                                                            function du2 = ddefunc4(t, u, UL)
    lam = pi/2;
                                                                 lam = pi/2;
    du2 = -lam * UL;
                                                                 du2 = -lam * UL;
end
function du3 = ddefunc5(t, u, UL)
                                                             end
  lam = pi/2 + .01;
                                                             function du3 = ddefunc5(t, u, UL)
  du3 = -lam * UL;
                                                               lam = pi/2 + .01;
                                                               du3 = -lam * UL;
 end
function u = uhist(t)
                                                             function u = uhist(t)
 u = .5;
                                                              u = .5;
 end
                                                              end
```