

---

```
%Zhaoyi Jiang
%ME564 HW4
clc
clear all
close all
%Problem 2 Part C

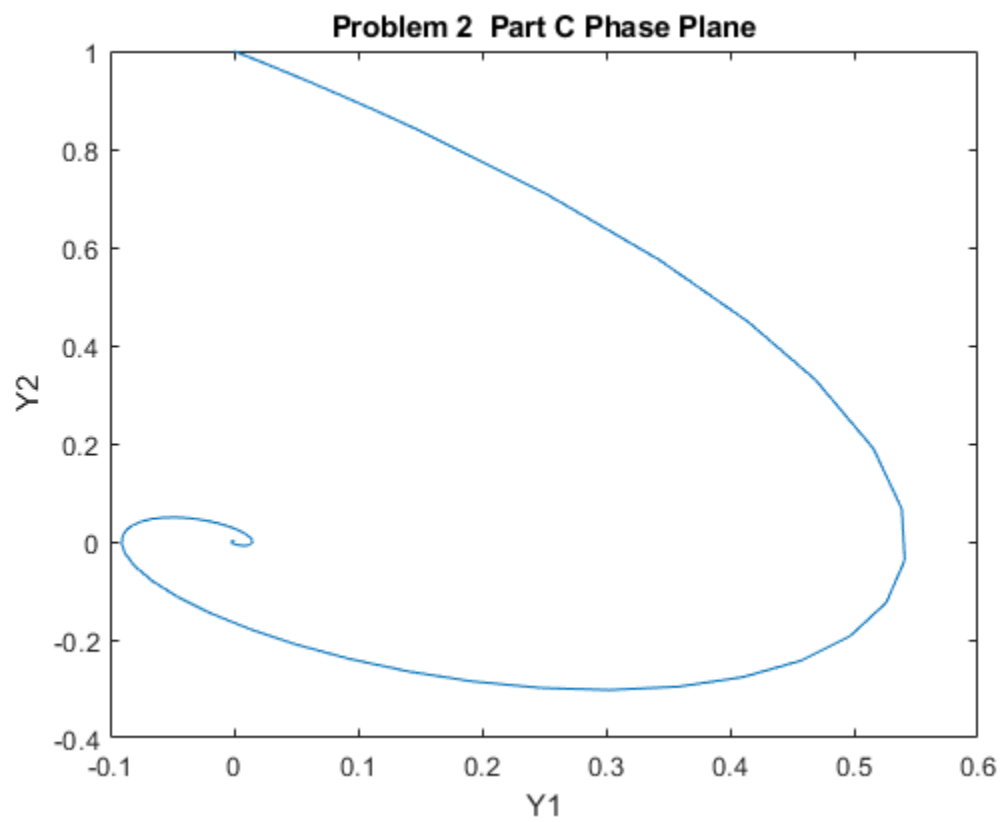
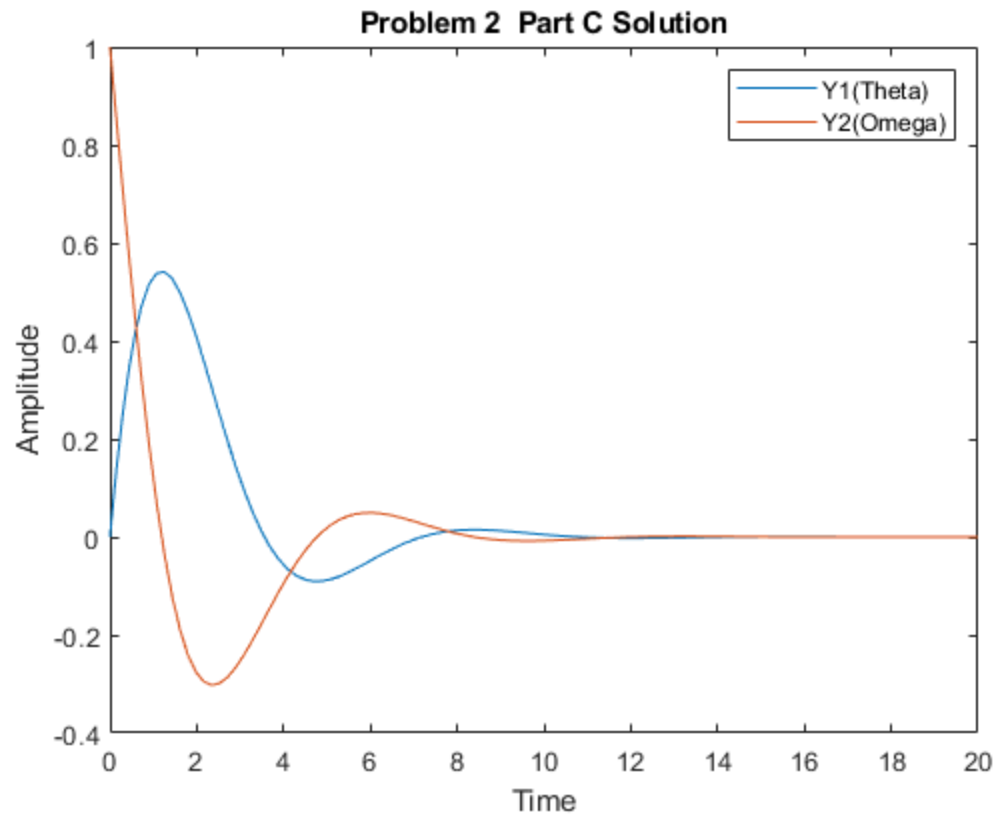
fun=@(t,y)[y(2);sin(y(1))-2*y(1)-y(2)]
Y0=[0;1];
tspan=[0 20];
[T,Y]=ode45(fun,tspan,Y0);
plot(T,Y(:,1),T,Y(:,2))
title('Problem 2 Part C Solution')
xlabel('Time')
ylabel('Amplitude')
legend('Y1(Theta)', 'Y2(Omega)')

figure
plot(Y(:,1),Y(:,2))
title('Problem 2 Part C Phase Plane')
xlabel('Y1')
ylabel('Y2')

fun =

function_handle with value:

@(t,y)[y(2);sin(y(1))-2*y(1)-y(2)]
```



---

*Published with MATLAB® R2018a*