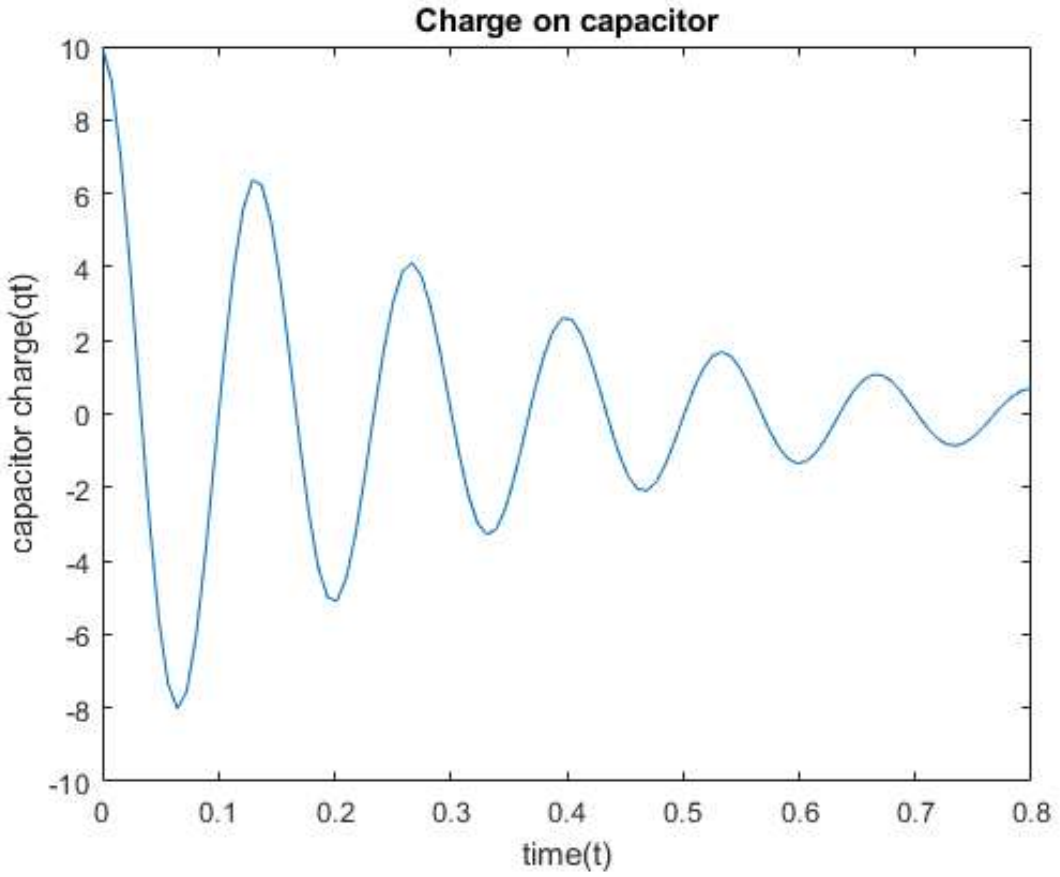
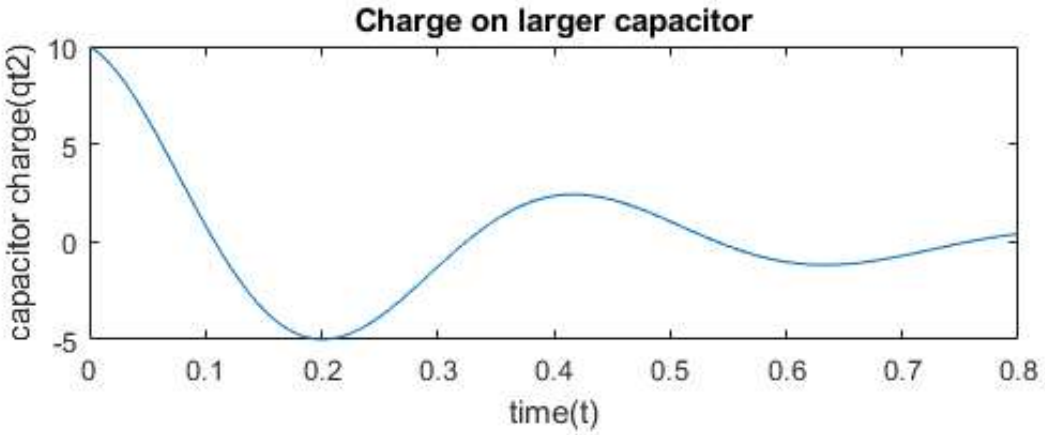
```
%Homework 2 Problem 1
t=linspace(0,0.8);
q0=10;
R=60;
L=9;
C=0.00005;
qt=q0*exp(-R*(t)/(2*L)).*cos((sqrt(1/(L*C)-(R/(2*L)).^2)*t));
plot(t,qt);
title('Charge on capacitor');
xlabel('time(t)');
ylabel('capacitor charge(qt)');
```

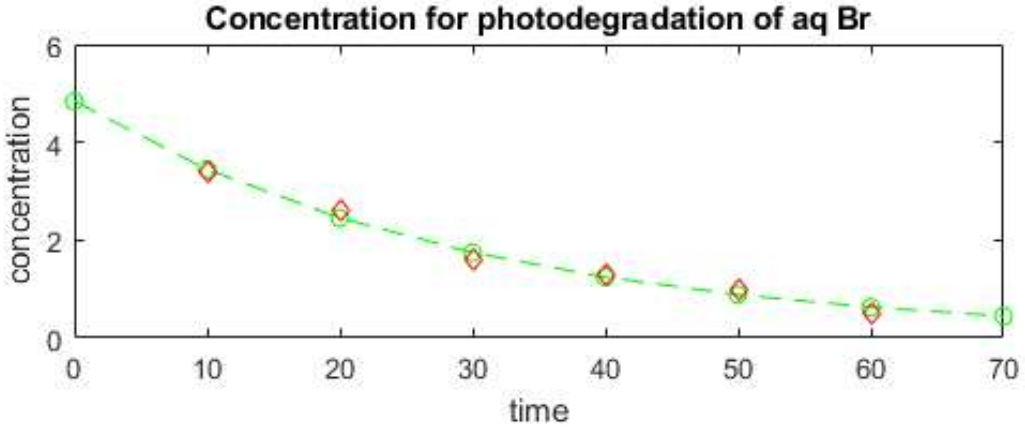



```
subplot(2,1,1);
C2=0.0005;
qt2=q0*exp(-R*(t)/(2*L)).*cos((sqrt(1/(L*C2)-(R/(2*L)).^2)*t));
plot(t,qt2);
title('Charge on larger capacitor');
xlabel('time(t)');
ylabel('capacitor charge(qt2)');
```




```
%If we increase the capacitance C, the
%value inside the square root will decrease,
%causing the cosine to decrease as well. Having
%smaller values inside a cosine increases the
%functions period as seen in my subplot.
```

```
%Homework 2 Problem 2
T=linspace(0,70,8);
c=4.84*exp(-0.034*(T));
dataX=[10 20 30 40 50 60];
dataY=[3.4 2.6 1.6 1.3 1.0 0.5];
plot(T,c,'--go');
hold on;
plot(dataX,dataY,'rd');
title('Concentration for photodegradation of aq Br');
xlabel('time');
ylabel('concentration');
```


Concentration for photodegradation of aq Br
concentration
time
0
2
4
6
0
10
20
30
40
50
60
70