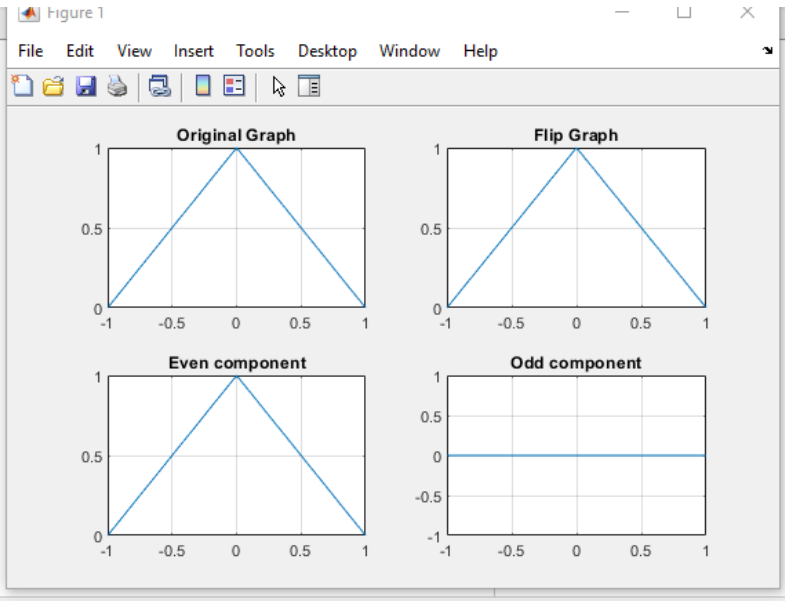
Lab 6

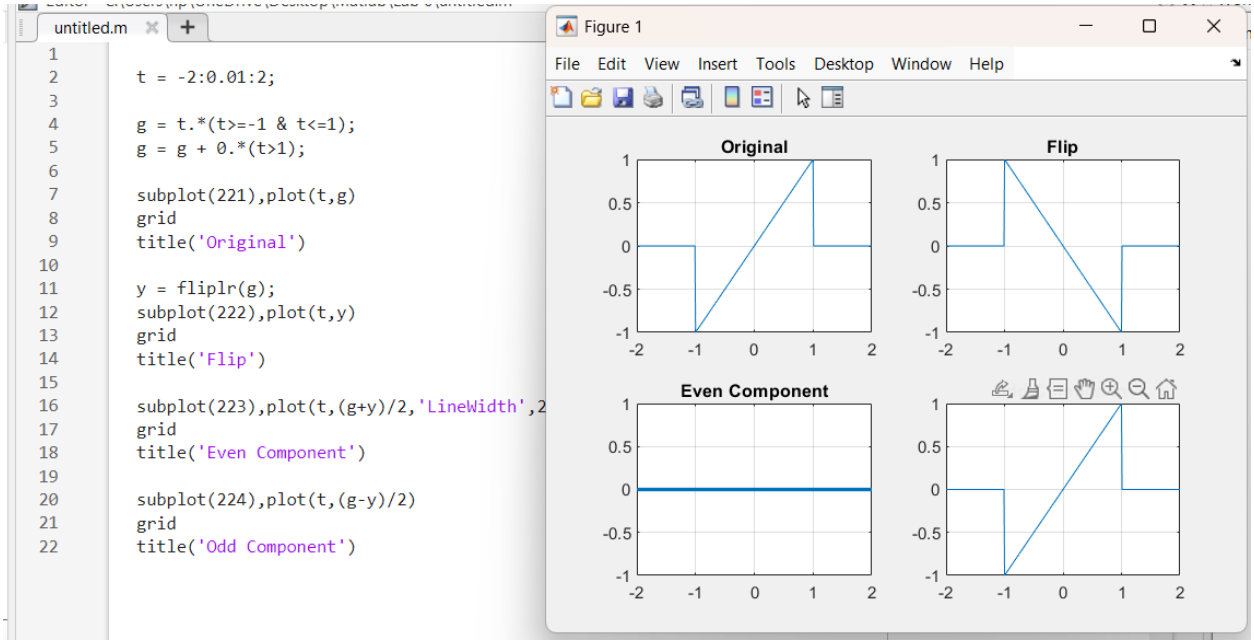
Ex 6.1.1

cdft.m

```
t=-1:0.01:1;

h=(t+1).*(t>=-1 & t<0);
h=h+(-t+1).*(t>=0 & t<=1);

subplot(221),plot(t,h)
title('Original Graph')
grid

y = fliplr(h);
subplot(222),plot(t,y)
title('Flip Graph')
grid

subplot(223),plot(t,(h+y)/2)
title('Even component')
grid

subplot(224),plot(t,(h-y)/2)
title('Odd component')

grid
```



Ex 6.1.2


untitled.m
1
t = -2:0.01:2;
g = t.*(t>=-1 & t<=1);
g = g + 0.*(t>1);
subplot(221),plot(t,g)
grid
title('Original')
y = fliplr(g);
subplot(222),plot(t,y)
grid
title('Flip')
subplot(223),plot(t,(g+y)/2,'LineWidth',2
grid
title('Even Component')
subplot(224),plot(t,(g-y)/2)
grid
title('Odd Component')
Figure 1
File Edit View Insert Tools Desktop Window Help
Original
Flip
Even Component

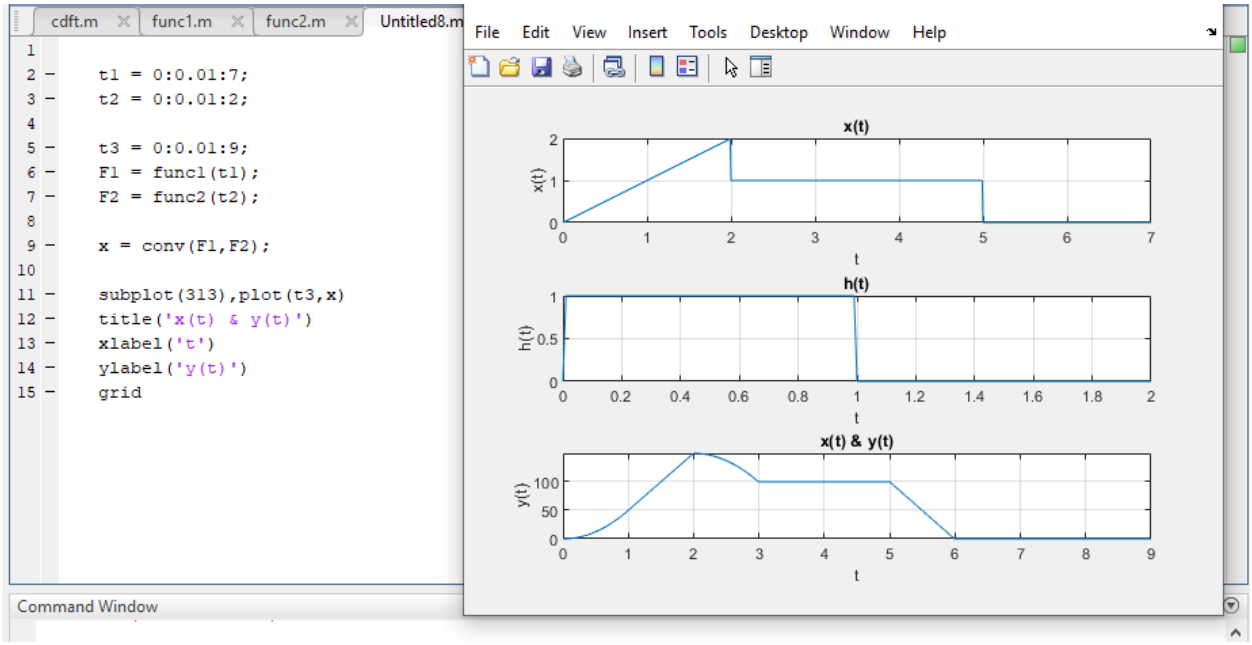
Ex 6.2.1

cdft.m | func1.m | func2.m | Untitled8.m

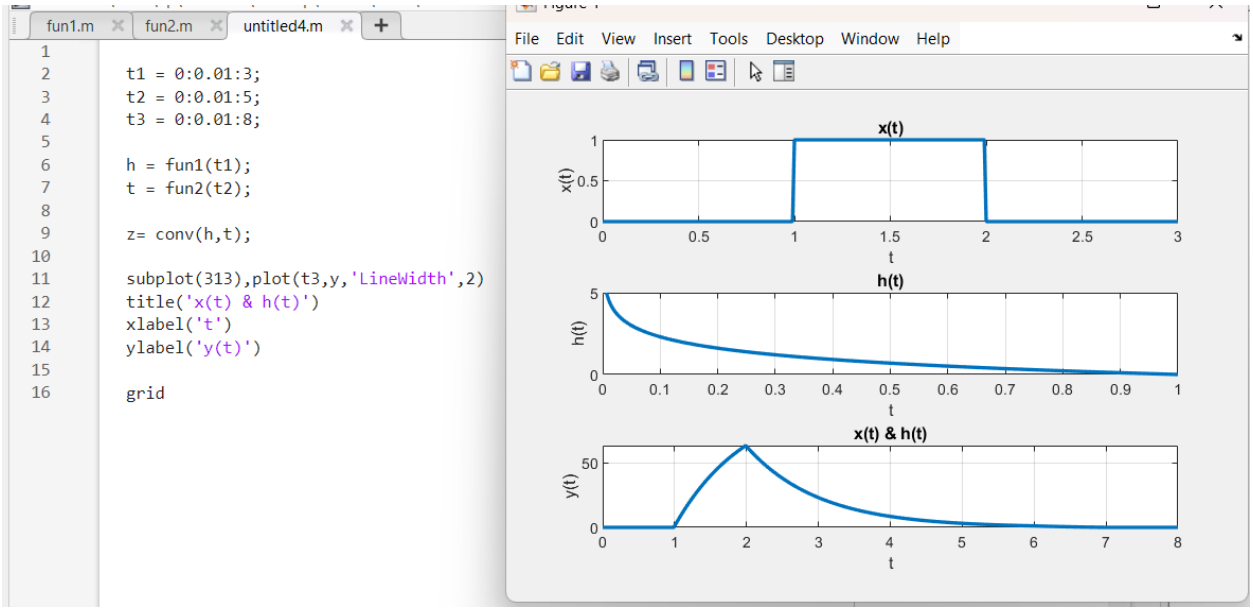
```
1
2
3   function F2 = func2(t2)
4
5 -   F2 = 1.*(t2>0 & t2<1);
6
7 -   F2 = F2 + 0*(t2>=1);
8
9 -   subplot(312),plot(t2,F2)
10 -  title('h(t)')
11 -  xlabel('t')
12 -  ylabel('h(t)')
13 -  grid
```

cdft.m | func1.m | func2.m | Untitled8.m

```
1
2   function F1 = func1(t1)
3
4 -   F1 = t1.*(t1>=0 & t1<2);
5 -   F1 = F1 + (t1>=2 & t1<2);
6 -   F1 = F1 + 1.*(t1>=2 & t1<5);
7 -   F1 = F1 + 0.*(t1>=5);
8
9 -   subplot(311),plot(t1,F1)
10 -  title('x(t)')
11 -  xlabel('t')
12 -  ylabel('x(t)')
13 -  grid
```


cdft.m
func1.m
func2.m
Untitled8.m
t1 = 0:0.01:7;
t2 = 0:0.01:2;
t3 = 0:0.01:9;
F1 = func1(t1);
F2 = func2(t2);
x = conv(F1,F2);
subplot(313),plot(t3,x)
title('x(t) & y(t)')
xlabel('t')
ylabel('y(t)')
grid
Command Window
File Edit View Insert Tools Desktop Window Help
x(t)
h(t)
x(t) & y(t)
t

Ex 6.2.2


fun1.m
fun2.m
untitled4.m
t1 = 0:0.01:3;
t2 = 0:0.01:5;
t3 = 0:0.01:8;
h = fun1(t1);
t = fun2(t2);
z= conv(h,t);
subplot(313),plot(t3,y,'LineWidth',2)
title('x(t) & h(t)')
xlabel('t')
ylabel('y(t)')
grid
File Edit View Insert Tools Desktop Window Help
x(t)
h(t)
x(t) & h(t)
t

fun1.m | fun2.m | untitled4.m

```
1
2  function t = fun2(t2)
3
4  t = exp(-t2);
5
6  subplot(312),plot(t,t2,'LineWidth',2)
7
8  title('h(t)')
9  xlabel('t')
10 ylabel('h(t)')
11
12 grid
```

fun1.m | fun2.m | untitled4.m

```
1
2  function h = fun1(t1)
3
4  h = 0*(t1>=1 & t1<1);
5  h = h+1*(t1>=1 & t1<2);
6  h =h+0.*(t1>=2);
7
8  subplot(311),plot(t1,h,'LineWidth',2)
9
10 title('x(t)')
11 xlabel('t')
12 ylabel('x(t)')
13 grid
```