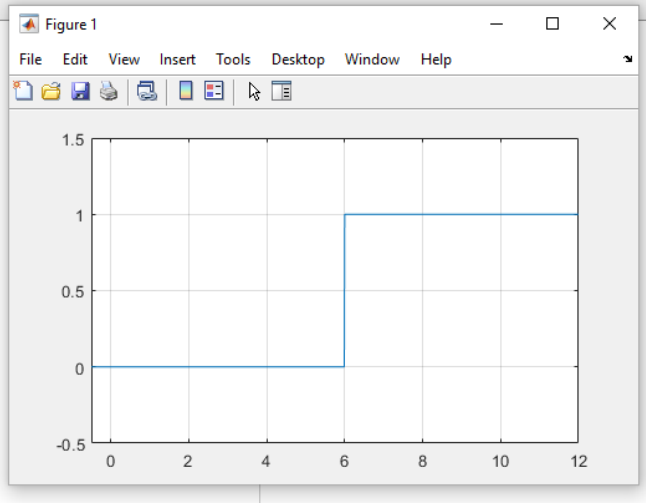
Lab 4

Ex1

cfstep.m

```
1
2
3   function  u = cfstep(t1,t2,t0)
4
5 -   inc = 0.01;
6
7 -   n = -t1:inc:t2;
8
9 -   u=[zeros(1,(t1+t0)./inc) 1 ones(1,(t2-t0)./inc)]
10
11 -  plot(n,u)
12 -  grid
13 -  axis([-0.5 12 -0.5 1.5])
14 -  end
15
```



Command Window

```
Error in cfstep (line 7)
n = -t:inc:t;

>> f= cfstep(t1,t2,t0)

u =
```

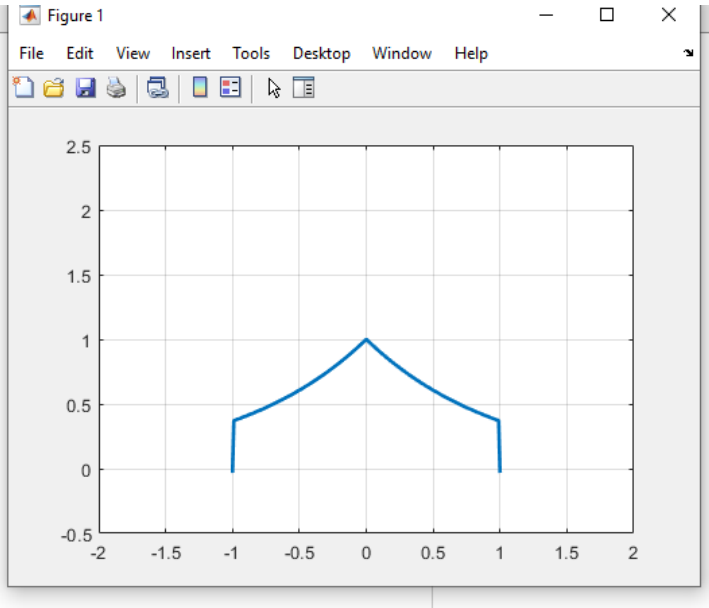
Ex2

cfstep.m

```
function  h = cfstep(t)


h=exp(t).*(t>=-1 & t<=0);
h=h+exp(-t).*(t>0 & t<=1);
h = h-0.4*(t==1)
h = h-0.4*(t==-1)
plot(t,h,'linewidth',2)
grid
axis([-2 2 -0.5 2.5])

end
```



Ex3

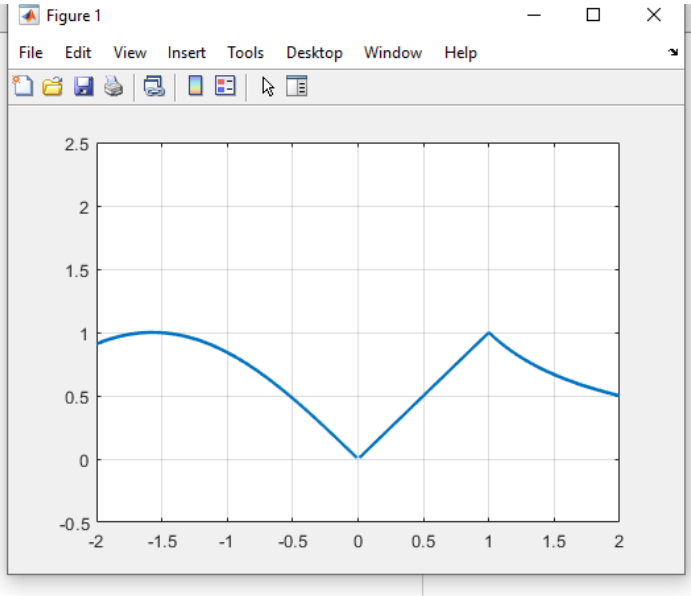
cfstep.m

```
function  h = cfstep(t)


h=-sin(t.*(t<0));
h=h+t.*((t>=0 & t<=1).^2);
h = h+(1./t).*((t>1));

plot(t,h,'linewidth',2)
grid
axis([-2 2 -0.5 2.5])

end
```



Command Window

```
>> t = -3:0.01:3
```

Ex4

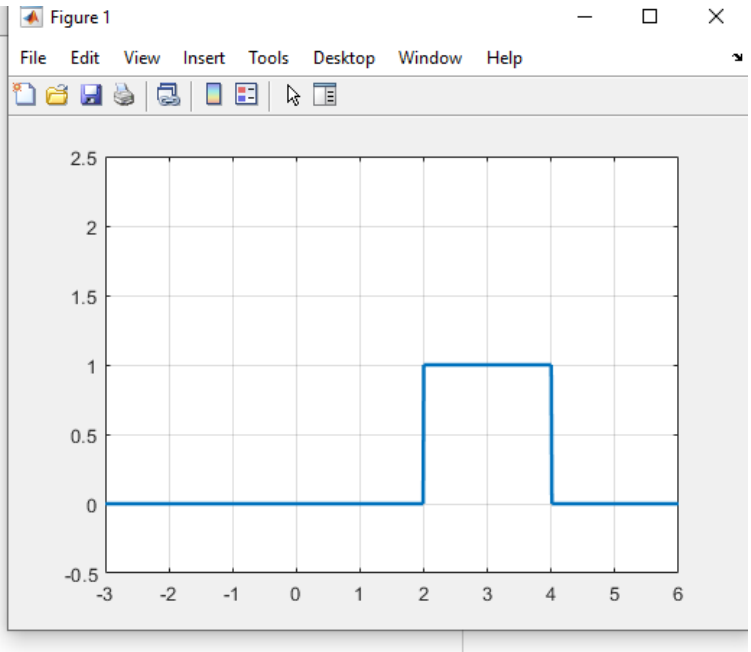
cfstep.m

```
function  h = cfstep(t)


h=-0.*((t<2));
h=h+1.*((t>=2 & t<=4).^2);
h = h+(0).*(t>4);

plot(t,h,'linewidth',2)
grid
axis([-2 2 -0.5 2.5])

end
```



Command Window

```
>> t = -3:0.01:6

t =
```

Ex5

cfstep.m

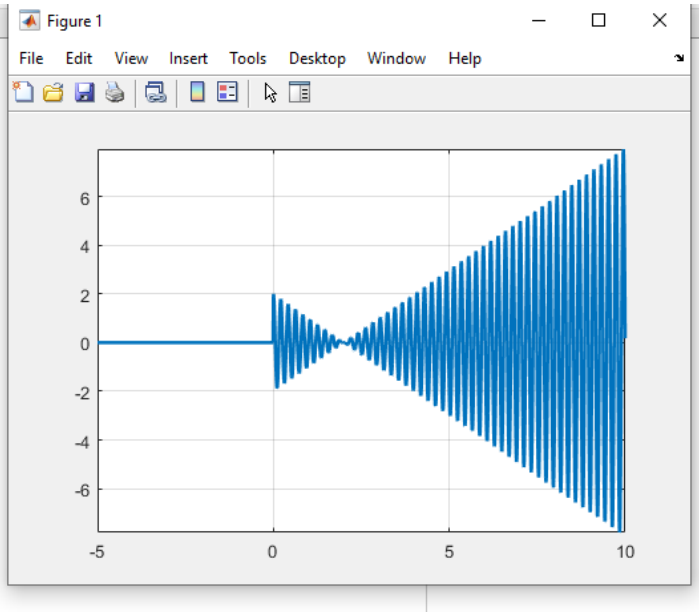
```
function  h = cfstep(t)


h=2.*exp(t).*((t>=5& t<=0));
h=h+(-t+2).*((t>=0 & t<=10));

w = cos(30.*t)
v=h.*w;

plot(t,v,'linewidth',2)
grid
axis([-2 2 -0.5 2.5])

end
```

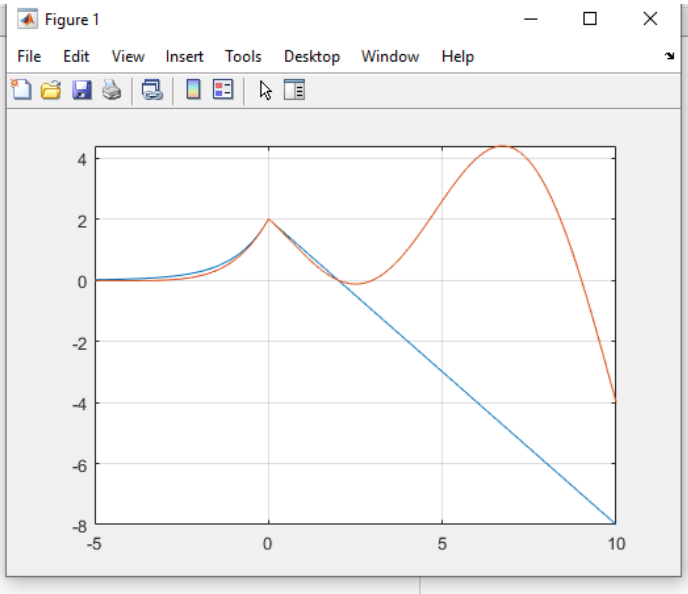


Command Window

```
>> t = -5:0.01:10

t =
```

Ex 6

cfstep.m

```
function  h = cfstep(t)


h=2.*exp(t.*((t>=-5& t<=0)));
h=h+ -t.*(t>=0 & t<=10);



w = cos((1/6)*pi*t)
v=h.*w;

plot(t,h,t,v)
grid
axis([-2 2 -0.5 2.5])

end
```