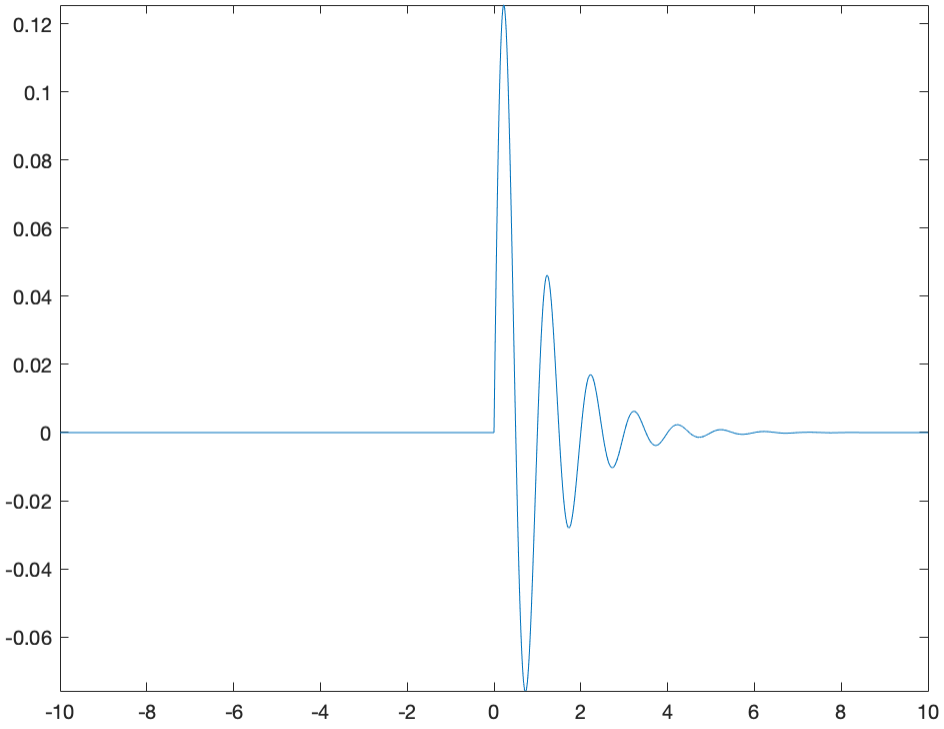
```
function [ ] = ejercicio3(  )
%Calcule la salida de un sistema LTI con:


syms  t w;
h = exp(-t)*heaviside(t)
H = fourier(h,w)

x = exp(-t)*cos(2*pi*t)*heaviside(t)
X = fourier(x,w)

Y = H*X

y = ifourier(Y,'t')

fplot(y,[-10,10])



end
```

```
h =

exp(-t)*heaviside(t)


H =

1/(1 + w*1i)


x =

exp(-t)*cos(2*pi*t)*heaviside(t)


X =

1/(2*(w*1i - pi*2i + 1)) + 1/(2*(w*1i + pi*2i + 1))


Y =

(1/(2*(w*1i - pi*2i + 1)) + 1/(2*(w*1i + pi*2i + 1)))/(1 + w*1i)


y =

-((exp(t*(- 1 + pi*2i))*(sign(t) + 1)*1i)/4 - (exp(-t*(1 +
 pi*2i))*(sign(t) + 1)*1i)/4)/(2*pi)
```



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