

QUESTIONS

1-) $f(t) = e^{-t}$ and $g(t) = \sin(t)$. Calculate the convolution of these two signals by hand. Then write the Matlab code that calculates the convolution automatically.

3-) Create a sin wave with $f=10$ and a cos wave with $f=15$. Also start time is 0 and end times is 2 with 1 step size. Obtain the convolution of these two signals. Plot the result of the signal and decrease the step size.

4-) Correct the below code and analyze the plot.

```
cll;  
clear al;  
closee all;  
n1 = 0 ; 1 : 9;  
y1 == [ 1 2 3 1 2 3 4 5 1 2];  
h1 = [ 1 1 1 2 1 -1 1 1 -2 -1];  
X = convv (n1, h1);  
n2 = 0 :: length(X)-1;  
figre(1)  
suplot(3,1,1)  
stem(n1, y1)  
title('Write down the correct title')  
subplot(3,1,2)  
sten(n1, h1)  
tile('Write down the correct title');  
subplot(3,1,5)  
stm(n2, X)  
title('Write down the correct title');
```