Convolution:

Convolution is basically combination of the 2 Signals and make the 3rd signal. In this code, I am using the Convolution Logic that is shown below:

Code Understanding:

In this Code, First I am going to ask an user to select 1 Convolution among 16 different set of convolution (we have total 4 signals, So total 16 possible convolution is presented.) In section 1 & 2 (Section 1 for h(t) and Section 2 for f(t))), I am going to ask the user about necessary parameters for plotting the signal. After gathering the both signal information, there are some variables initialization, which I am going to use for the convolution In section 3.like set an m\*n array for saving the both signal values in a matrix with respect to t(tau). In section 4, the convolution Logic is running. The logic behind convolution is mentioned below.

v=Yfinal(it,:).\*Zfinal(it,:);

as(it,:)=sum(v)+as(it,:);

So convolution is basically A set of calculation, when it first multiply the both signals value at tau t and add them in as variable. Than when 2nd loop is executing at that time it is adding up that new value in previous vale of as.Yfinal is storing all the values of H(t) function & Zfinal is strong all the values of f(t) with respect to t(tau).

So in my calculation section, first it is taking value of t(tau) & pre allocated values for signals, and generate the signal. After than it is saving all the values in Yfinal & Zfinal variables. After than perform the convolution logic and save that value in as variable. After that t is incremented as. Sample is predefined as Min:a:Max. Where a is (Max-Min) /Sample.

In last section 5, it is plotting all the graphs. In subplot, 1st graph is plotting the convolution live. 2nd plot is performing h(T-t). 3rd plot is performing f(T). And 4th plot is showing performing the Convolution.