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%Assignment 1
% Done by Mahmoud Yassin Mahmoud
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% Submitted To Dr. Wail A. Mousa
% Bism Allah and I will start with
%(Q1b):
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
clc;
clear;
%.....
%defining time axis
n1a = -10:-1;
n1b = 0:19;
n1c = 20:40;
n1 = [n1a n1b n1c];
n2a = 20:50;
n2 = [ n1b n2a];
n = -10:90;
%.....
% convolution calculation
x1 = zeros(size(n1a));
x2 = ones(size(n1b));
x3 = zeros(size(n1c));
h2 = zeros(size(n2a));
x = [ x1 x2 x3];
h = [ x2 h2];
y = conv(x,h);
%.....
%ploting
subplot(221)
stem(n1,x)
    grid minor
    title(['x(n) = 1 ,0=<n<=19, otherwise 0'])
    xlabel('-10< n < 40')
    ylabel('x(n)')

subplot(222)
stem(n2,h)

    title('h(n) = x(n) ');
    grid minor
    xlabel('0< n < 50')
    ylabel('h(n)')

subplot(223)
stem(n,y)
    grid minor
    title('y(n) = x(n) * h(n)');
    xlabel('-10< n < 90')
    ylabel('y(n)')

sgtitle('Convolution between x(n) and h(n) to get y(n)') % title for the hole figure

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Convolution between $x(n)$ and $h(n)$ to get $y(n)$

