Tune-Up “Tuesday” #9 for November 9, 2017

% (a) Define interval of time

Ts = 0.001;

t = 0 : Ts : 5;

% (b) Define rectangular pulse

x1 = rectpuls(t-0.5);

% (c) Plot rectangular pulse

figure;

plot(t, x1);

ylim( [-1.2, 1.2] );

% (d) Convolve x1 with itself

y1 = conv(x1, x1);

y1 = y1(1:length(t));

1. Define an interval of time *t* in [0, 5]
2. Over the interval of time in part (a), define a *x*1(t) to be a rectangular pulse from 0 to 1s.
3. Plot the rectangular pulse in (b)
4. Convolve *x*1(t) with itself and only keep the result for the same interval of time as in (a).
5. Plot the result in part (d).
6. Over the interval of time in part (a), define a *x*2(t) to be a rectangular pulse from 0 to 2s.
7. Plot *x*2(t).
8. Convolve *x*1(t) and *x*2(t) and only keep the result for the same interval of time as in (a).
9. Plot the result in (h)