TrigDemo.m

% Code for demonstrating some elementary MATLAB functions and capabilities.
% Four plots are drawn, each with a trigonometric function.

% First, create a vector with 1000 equally spaced values running from % 0 to 1. This vector will be called t.

t = [0:1/999:1];

% Now create a vector x1 of corresponding values of the cosine function % (with frequency 3).

x1 = cos(2*pi*3*t);

% Make a 2x2 grid of plots and plot this cosine function in the upper-left % position. (If there were only going to be a single plot, then this % command would be unnecessary.)

subplot(2,2,1);
plot(t,x1);

% For the second plot, compute the values of the sine function (also with % frequency 3).

x2 = sin(2*pi*3*t);

% Plot the sine function in the upper-right position.

subplot(2,2,2);
plot(t,x2);

% For the third plot (lower-left position), plot BOTH the cosine and sine % functions together. Use a dotted line for the cosine and a solid line % for the sine.

subplot(2,2,3);
plot(t,x1,':',t,x2,'-');

% Finally, compute the values of the sum of the sine and cosine functions, % divided by the square root of 2. This should look just like the sine and % cosine functions, but shifted, that is, at a different phase.

x3 = (x1 + x2) / sqrt(2);

% Plot this last function in the lower right position.

subplot(2,2,4);
plot(t,x3);
Figure 1: Screen output from `TrigDemo.m`.