Spring-Mass System - Plotting

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Step 3: Plotting

Let's visualize our results by making a plot of the mass position *x* vs. time using the steps shown in the video below.

Create Professional-Looking Plot

We'll make a few tweaks to the plot to prettify it and make it look more professional. We'll do this using the following template.

```
figure(1); %Create figure #1
clf; %Clear current figure
h=plot( , ,' ');
set(h,'LineWidth',2);%Set linewidth for curve
set(gca,'Box','on','LineWidth',2,...
  'FontName','Helvetica',...
  'FontSize',14); %Set axis properties
xlabel('');
ylabel('');
title('');
axis square; %Make axis box square
```

The following video shows you how to implement this template.

Note that we use the variable *h* for the plot handle in the above video. But we have also used *h* for the time step. Oops! In this case, this doesn't cause an error since plotting occurs at the end. But it'd be better to call the plot handle, say, *hplot* in your code.

We next change the axis limits from the default using the *axis* function so that our curve fills up more of the plot area.

Add Analytical Solution to Plot

First, we form the necessary arrays from the analytical solution.

Second, we add a curve corresponding to the analytical solution to our figure.

Lastly, we add a legend to label the curves.

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