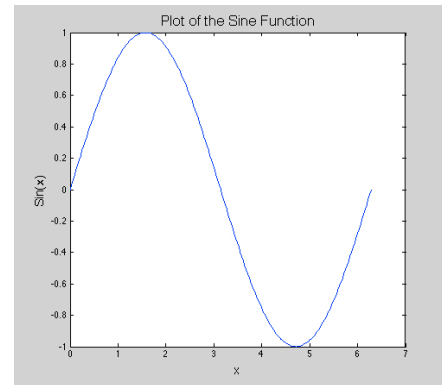


Example 1: Plot a sine wave over one period

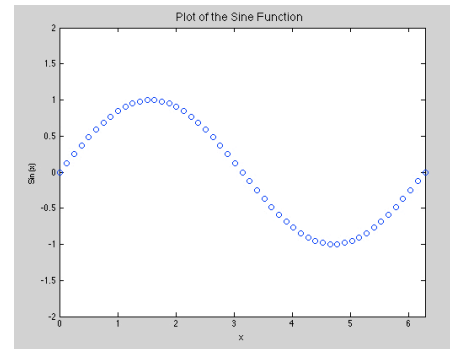
In this example, we create two arrays **x** and **y** and then plot array **y** against array **x**. Array **x** contains 201 data points evenly spaced from 0 to 2π inclusive. Array **y** is then created by taking the sin of every element in array **x**. The plot is created with the **plot** command and then labeled.

```
x = [0:pi/100:2*pi];
y = sin(x);
plot(x,y)
xlabel('x')
ylabel('Sin(x)')
title('Plot of the Sine Function', 'FontSize',14)
```

**Example 2: Plot using custom marker style**

In this example, we plot each point as a circle by adding a **marker style** 'o' to the **plot** command. A list of different line and marker styles is given on Mops #3. We also set the scaling of the x and y axes using the **axis** command.

```
x = [0:pi/25:2*pi];
y = sin(x);
plot(x,y,'o')
xlabel('x')
ylabel('Sin(x)')
title('Plot of the Sine Function', 'FontSize',14)
axis([0 2*pi -2 2])
```

**Example 2: Plot 3 sine waves on one graph**

We extend the first example by plotting three sine waves on the same graph. We define three arrays **y**, **y2**, and **y3**. This time the plot function has 6 arguments, three pairs of x & y arrays to define each function. A legend is used to label each of the functions. MATLAB automatically chooses a different color for each function.

```
x = [0:pi/100:2*pi];
y = sin(x);
y2 = 2 * sin(x - pi/6);
y3 = 3 * sin(x - pi/3);
plot(x,y, x,y2, x,y3)
xlabel('x')
ylabel('Wave height')
title('Three Sine Waves', 'FontSize',14)
axis([0 2*pi -4 4])
legend('sin(x)', '2sin(x-pi/6)', '3sin(x-pi/3)')
```

