```
1
2
3   %This functions purpose is to take a users input
4   %of freq to count in a 20 second timeframe.
5   %Then it will plot with the X value on x axis
6   %and sin of the X value on y axis.
7
8   %Example that is plotted = ListPlot(0.1)
9
10   function create = ListPlot(freq)
11   start = 0.0;
12   stop = 20.0;
13   create = [];
14   create = [start:freq:stop];
15   plot(create,sin(create),"b");
16   set(gca, "fontsize", 12);
17   title ("Plot of function");
18   xlabel("X value");
19   ylabel("sin(X)");
20   grid("on");
21   endfunction
22
```

Figure 1

Plot of function



(14.341, -0.99519)
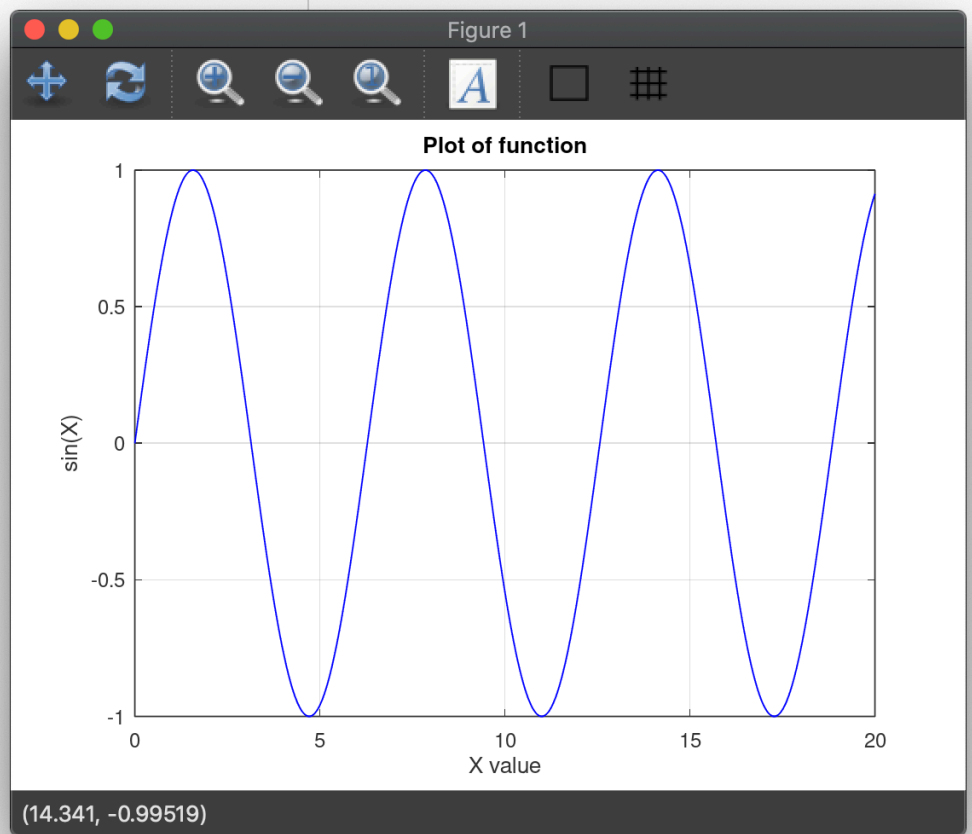
```
1
2    %RLC Function Example
3    %Matthew Townsend
4
5  ⊟ function r = RLC()
6        Resistance = 50.0; %Ohms
7        Capacitor = 470.0e-12; %Farads
8        Inductor = 54.0e-6; %Henries
9        tau = (Resistance*Capacitor);
10       omega_LC = 1.0/(sqrt(Inductor*Capacitor));
11       omega = [0.0:1.0e3:2.0e6]*2.0*pi;
12
13       k_squared = sqrt(1-(omega/omega_LC).^2);
14       k_fourth = k_squared.^4;
15       denominator = k_squared.^4+(omega*tau).^2;
16       imaginary = k_squared.^2 .* omega*tau;
17       final = k_fourth./denominator - i*imaginary./denominator;
18
19       plot(omega/2/pi/1e6,20*log10(abs(final)))
20       xlim([0 2.0]);
21       ylim([-30.0 10.0]);
22       set(gca,"fontsize",12);
23       grid("on");
24       title("Magnitude");
25       xlabel("Frequency (MHz)");
26       ylabel("Amplitude");
27   endfunction
28
29
30
```


Figure 1 — Magnitude