Handling sounds in Matlab

After downloading them to your local machine, you can manipulate these sounds in Matlab, as shown in the following transcript:

```
>> % Read in the sound data
%>> [d,r] = wavread('msmn1.wav');
[d,r] = audioread('msmn1.wav');
>> % r is the sampling rate
>> r
r =
       22050 samples/sec
>> % d is the data
>> size(d)
ans =
      110250           1
>> % i.e. 110250 samples = 5 seconds * 22050 samples/sec
>> % Listen to it
>> soundsc(d,r);
>> % Look at the spectrogram (spectrum as a function of time)
>> specgram(d,1024,r);
>> % Design a quick high-pass filter at 1000 Hz (relative to nyquist rate
r/2)
>> [b,a] = ellip(8,1,50,1000/(r/2),'high');
>> % Pass it through the filter
>> df = filter(b,a,d);
>> % See how the spectrogram is changed
>> specgram(df,1024,r);
>> % Most of the energy below 1000 Hz has been removed
>> % Take a listen
>> soundsc(df,r);
>> % .. all the 'bass' is gone
>> % Write it out to a new soundfile
>> wavwrite(df,r,'tmp.wav');
>> audiowrite(df,r,'tmp.wav');
```