

Useful MATLAB Commands

<code>>> clc</code>	Clears the Command Window
<code>>> clear</code>	Clears all the variables in the Workspace
<code>CTRL + C</code>	Breaks out of an infinite loop

Provided MATLAB Functions

Functions and Examples	Description
<code>>> soundUI</code>	App to visualize the effect of noise and amplitude on a sound file
<code>>> playNumber</code> <code>playNumber(1:8)</code>	Takes an array of numbers as input and for each number plays a corresponding tone on the speaker
<code>>> miniKeyB</code>	Different keys plot different sound waves with different frequencies
<code>>> plot(data)</code>	Plots the input data in a figure window
<code>>> pause(0.5)</code>	Pauses MATLAB for 0.5 seconds
<code>>> audioread</code> <code>[y, Fs] = audioread('mySong.mp3')</code>	Reads audio files into MATLAB and gives the sample data of the audio(y) and its sampling rate(Fs) as the output
<code>>> audiowrite</code> <code>audiowrite('newFilename.wav', y, Fs)</code>	Writes the audio data(y), with sample rate Fs to a media file
<code>>> playSound</code> <code>playSound('guitar_B4.wav')</code>	Plays audio files in MATLAB

MATLAB Functions for the Arduino Board

Functions and Examples	Description
<code>>> board.Connect('Port#')</code> <code>board.Connect('4')</code>	Allows MATLAB to speak to the Arduino board via provided port number
<code>>> board.Disconnect</code>	Disconnects board from MATLAB
<code>>> board.readPin('Pin#')</code> <code>board.readPin('A2')</code>	Reads analog and digital sensor information from the specified pin number in the board
<code>>> board.writePin('Pin#', value)</code> <code>board.writePin('D2', 1)</code>	Turns a digital sensor/actuator on or off depending on the input value
<code>>> board.playTone('Pin#', freq, dur)</code> <code>board.playTone('D3', 392, 0.5)</code>	Plays a note from the pin number specified on the board (for a speaker) at the desired frequency for the given duration
<code>>> readVoltage(obj, 'Pin#')</code> <code>readVoltage(obj, 'A2')</code>	Reads the voltage on the specified analog input pins on the board