tone()

[Advanced I/O]

Description

Generates a square wave of the specified frequency (and 50% duty cycle) on a pin. A duration can be specified, otherwise the wave continues until a call to [noTone()](https://www.arduino.cc/reference/en/language/functions/advanced-io/noTone). The pin can be connected to a piezo buzzer or other speaker to play tones.

Only one tone can be generated at a time. If a tone is already playing on a different pin, the call to tone() will have no effect. If the tone is playing on the same pin, the call will set its frequency.

Use of the tone() function will interfere with PWM output on pins 3 and 11 (on boards other than the Mega).

It is not possible to generate tones lower than 31Hz. For technical details, see [Brett Hagman’s notes](https://github.com/bhagman/Tone#ugly-details).

Syntax

tone(pin, frequency)  
tone(pin, frequency, duration)

Parameters

pin: the Arduino pin on which to generate the tone.  
frequency: the frequency of the tone in hertz. Allowed data types: unsigned int.  
duration: the duration of the tone in milliseconds (optional). Allowed data types: unsigned long.

Returns

Nothing

Notes and Warnings

If you want to play different pitches on multiple pins, you need to call noTone() on one pin before calling tone() on the next pin.