



Getting started with Arduino - Potentiometer Pong

by **Digital Art and Technology** on July 7, 2015

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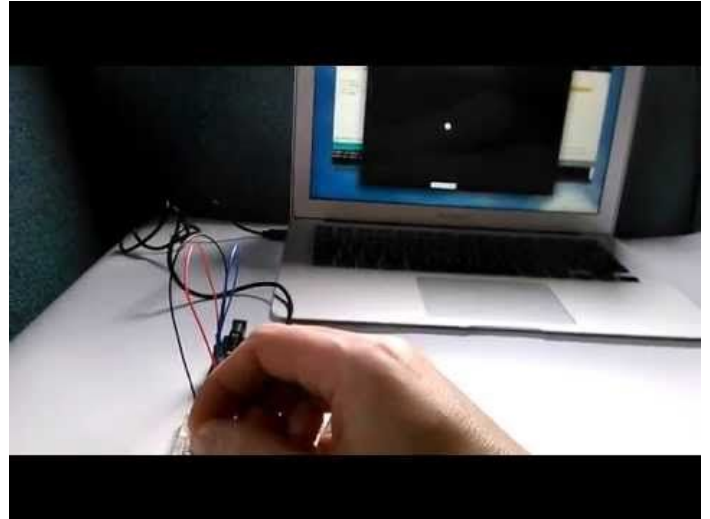
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Intro: Getting started with Arduino - Potentiometer Pong

In this tutorial we are going to build an arduino-based controller that we can use to play pong.

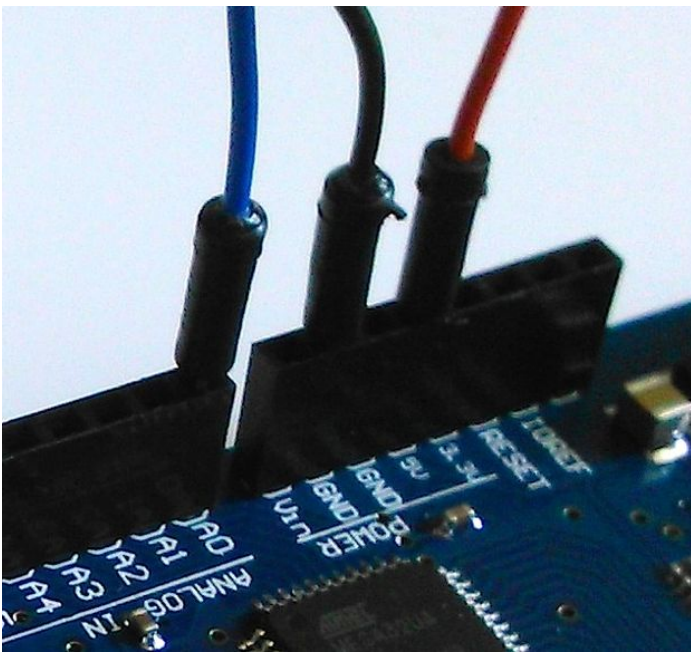
We are going to use a dial potentiometer (a turning knob) to control the pong bat/paddle.



Step 1: Wire up your Arduino

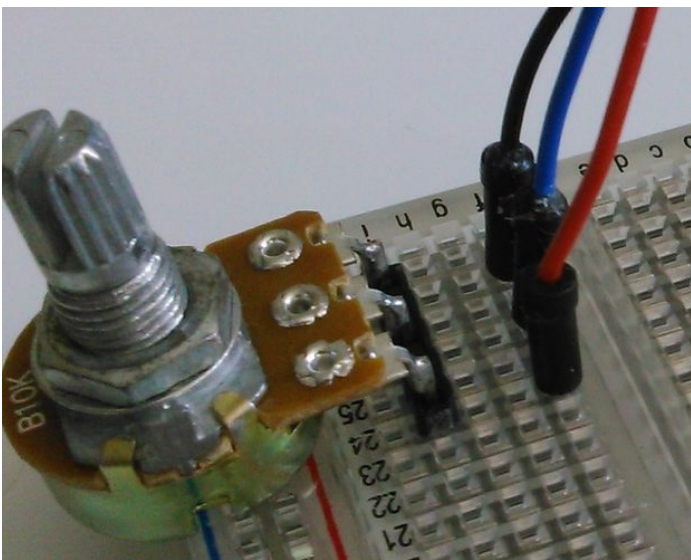
The first job is to connect three wires to your arduino:

- A blue wire into analog pin A0
- A black wire into one of the GND (ground) pins
- A red wire into the 5v pin



Step 2: Connect your potentiometer

Next we connect the wires to a dial potentiometer (here we use a 10k potentiometer, but most other types will also work). Connect the black wire to the first pin, the blue to the second and the red to the third (as show in the photo).

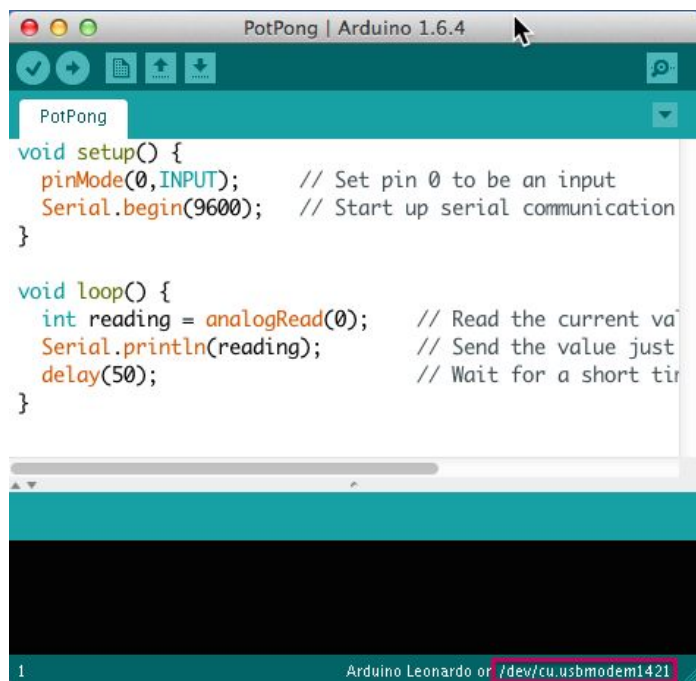


Step 3: Write your code

The next step is to write some code to read the current value of the potentiometer and pass it on via the USB cable to your computer.

Download the PotPong.ino file, open it up in the Arduino application and upload it onto your Arduino.

Note: In order to connect to the pong game in the next step of this tutorial, you are going to need to know which serial port your Arduino is attached to. Make a note of the port name at the bottom right of the Arduino window (see the red box in the above screenshot). If you have a Mac, the name will start with "/dev" if you have a Windows computer the name will start with "COM".



File Downloads



PotPong.ino (411 bytes)

[NOTE: When saving, if you see .tmp as the file ext, rename it to 'PotPong.ino']

Step 4: Run the pong game

We have written a pong game for you to use - download the Pong.zip file and unzip it.

To run the pong game, you are going to need to install the Processing programming tool

Once you have installed Processing, simply open up the Pong project file.

Before you can run the game, you need to tell the programme which serial port your Arduino is attached to.

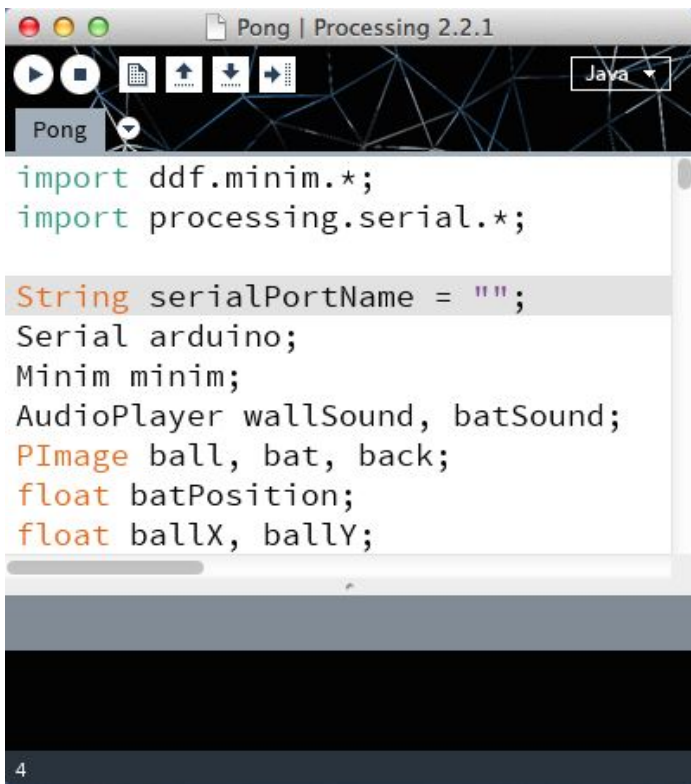
Find the line that starts with **String serialPortName** and enter in the serial port name you found earlier.

For example, on a Mac it would be something like:

```
String serialPortName = "/dev/cu.usbmodem1421";
```

or on Windows, something like:

```
String serialPortName = "COM1";
```



File Downloads



Pong.zip (17 KB)

[NOTE: When saving, if you see .tmp as the file ext, rename it to 'Pong.zip']

Step 5: Enjoy

If everything worked, when you press the run/play button in Processing (found at the top left of the window) you should be able to control the Pong bat/paddle using the potentiometer.

If you enjoyed this instructable, check out our other tutorials

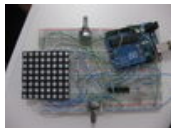
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Related Instructables



Getting started with Arduino - Two Player Arduino Pong
by Digital Art and Technology



2-Player Pong Game Using Arduino Uno and 8x8 Led Matrix
by onuravun

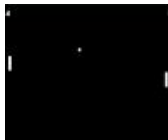


Photo resistor controlled arduino pong with processing
by GIV-ENG-2014



Arduino Pong
by fredrikl



VGA Pong with Arduino Uno
by Rob Cai



Arduino Pong
by AgastyaB

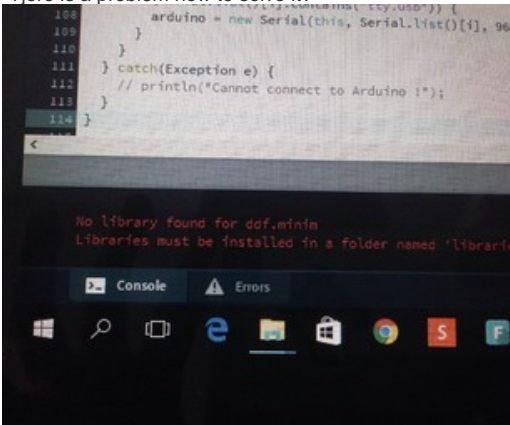
Comments

13 comments [Add Comment](#)



Loufourmountains says:

There is a problem how to solve it?



Jun 30, 2016. 8:58 AM [REPLY](#)



Vitor AugustoM says:

Hey there! I've just solved this problem... In processing, you have to go

Sketch> Import Library> Add library... and search and install these:

processing.serial

Minim

And them enjoy :)

Jul 17, 2016. 9:05 PM [REPLY](#)



Loufourmountains says:

Ok thanks for replying!

Jun 30, 2016. 12:10 AM [REPLY](#)



Loufourmountains says:

Does arduino uno works (here you use the Leonardo)

Jun 29, 2016. 1:31 PM [REPLY](#)



Digital Art and Technology says:

yes - should work just fine with an UNO

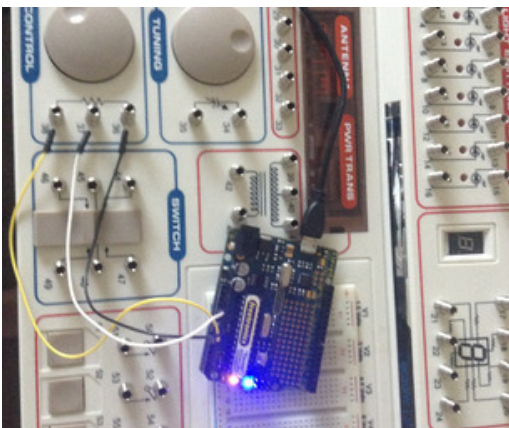
Jun 29, 2016. 2:42 PM [REPLY](#)



Jeremy the robot says:

its really good thanks

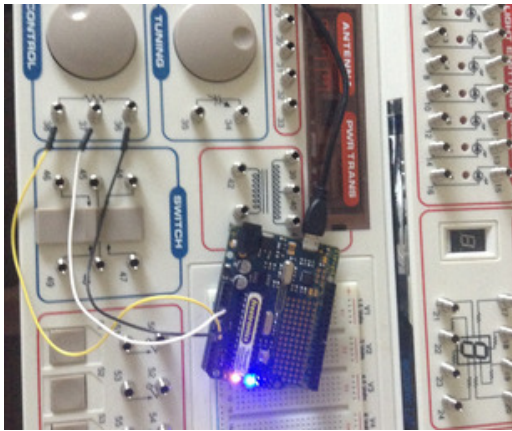
May 21, 2016. 6:53 PM [REPLY](#)





Jeremy the robot says:
its really good thanks

May 21, 2016. 6:53 PM [REPLY](#)



JairoF2 says:
is it matlab based or what program?

Nov 9, 2015. 4:23 PM [REPLY](#)



Digital Art and Technology says:
the pong game is written in Processing

Nov 12, 2015. 1:30 AM [REPLY](#)



DIYProjectLog says:
Some improvements based on this great instructables post:
<http://projectlog.ferranfabregas.info/creating-a-pc-2-players-pong-game-controller-with-arduino-and-processing/>
I hope you like it!

Jul 18, 2015. 10:51 AM [REPLY](#)



Digital Art and Technology says:
Sweet !

Jul 19, 2015. 9:36 AM [REPLY](#)



DIYProjectLog says:

Jul 18, 2015. 10:51 AM [REPLY](#)



tomatoskins says:
Such a cool idea! I'd love to see a video of it in action!

Jul 16, 2015. 9:00 AM [REPLY](#)