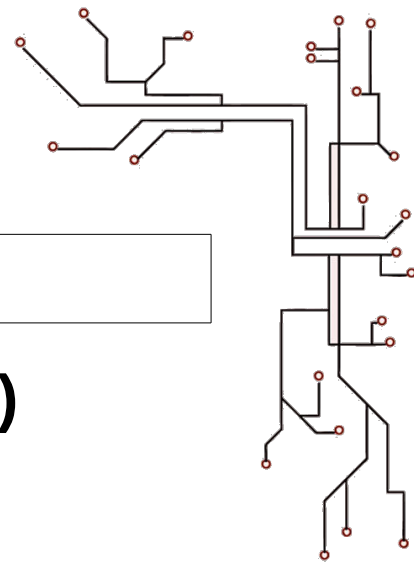


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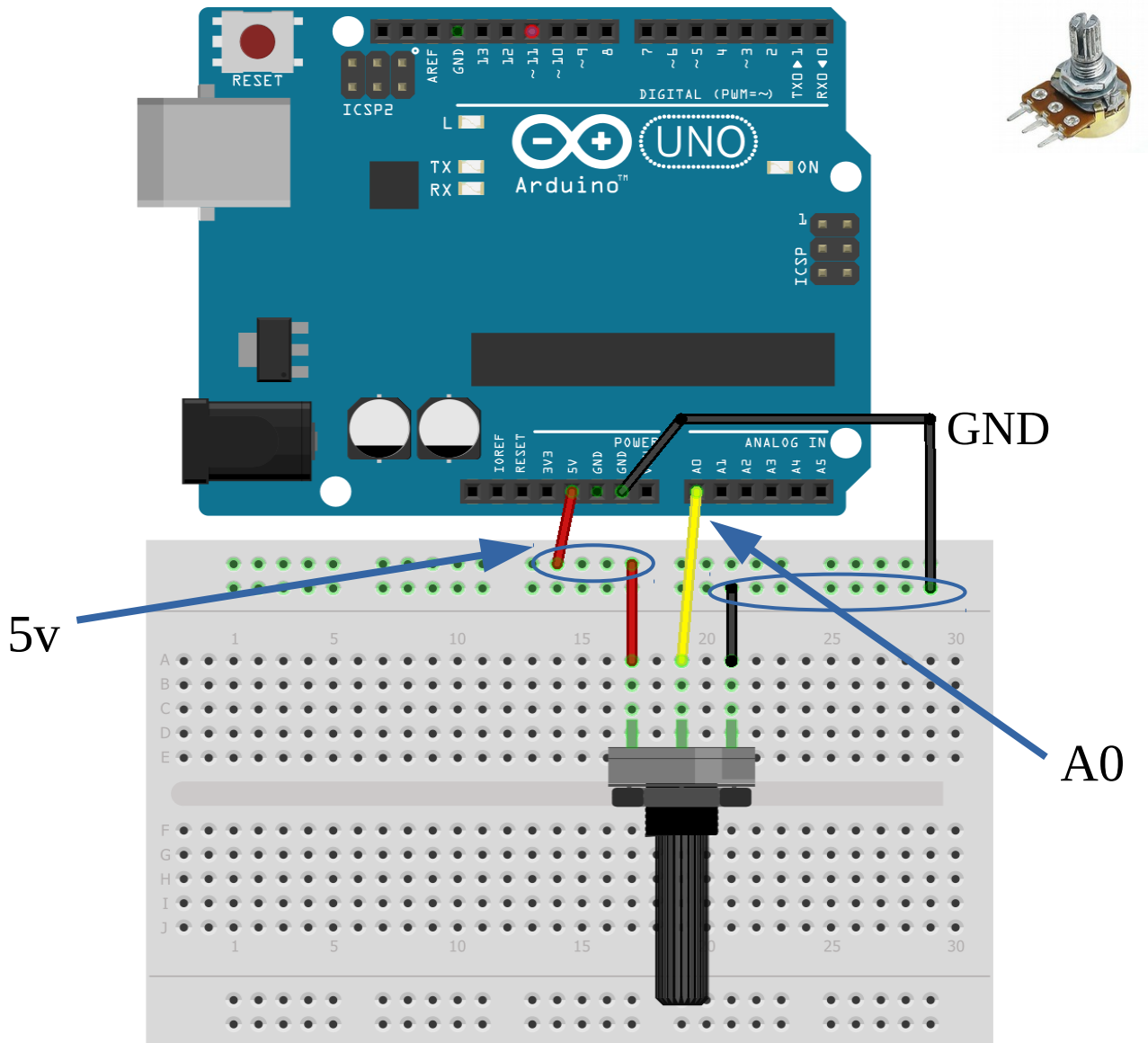
Name:		Class:	
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## Lesson 3 (Analog Input)

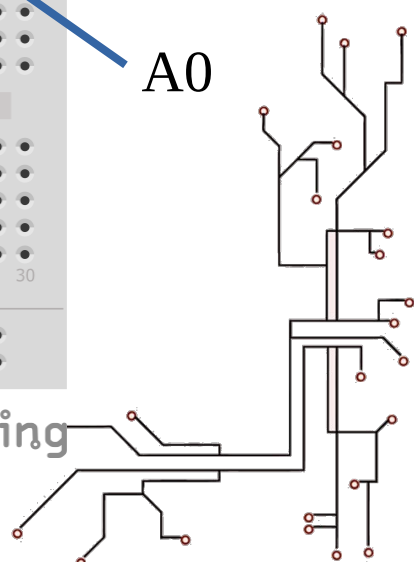
<https://a9i.sg/huayi> – look for Lesson 3 Slides

### Exercise 3a (Read from A0)

*Connect this Circuit! Make sure to get a Potentiometer...*

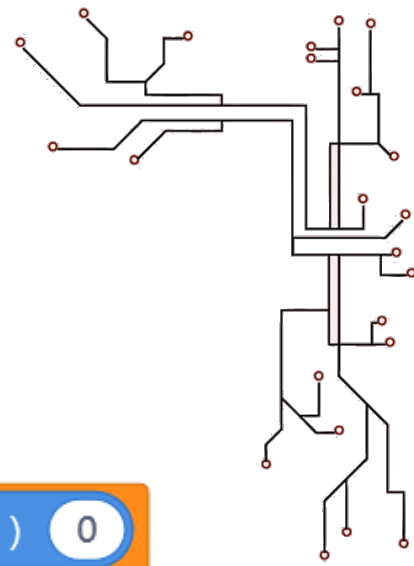


fritzing



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```
when clicked
  forever
    set Potentiometer to read analog pin ( A ) 0
```

3a)

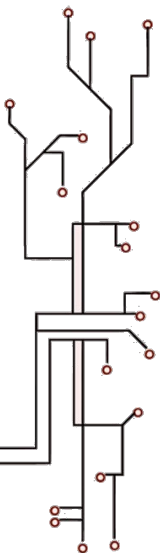
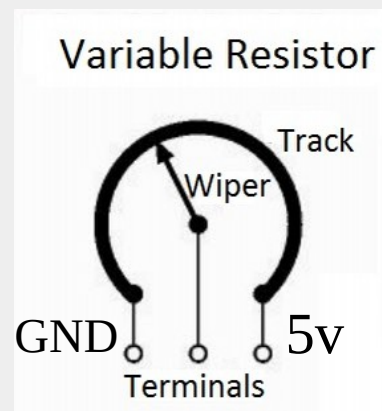
\* *What is the range of values you can read from A0?*

Min: \_\_\_\_\_ Max: \_\_\_\_\_

\* *Extend the program above:*

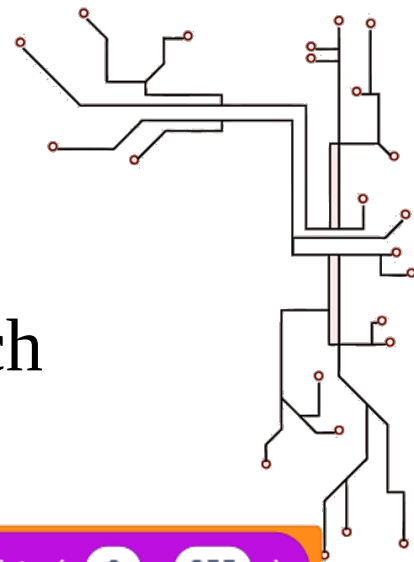
1) checks if Potentiometer wiper is closer to GND or closer to 5V ( $A0 > \text{_____ ?}$ )

2) if closer to GND  
Panda says "GND"  
else  
Panda says "5V"



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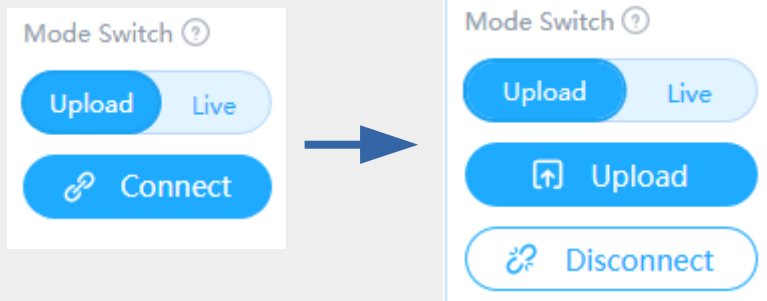


```
when clicked
  forever
    set Potentiometer to read analog pin ( A ) 0
    set LED Level to map Potentiometer from ( 0 , 1023 ) to ( 0 , 255 )
    set PWM 11 output as LED Level
```

## Physical Dimmer Switch

3b)

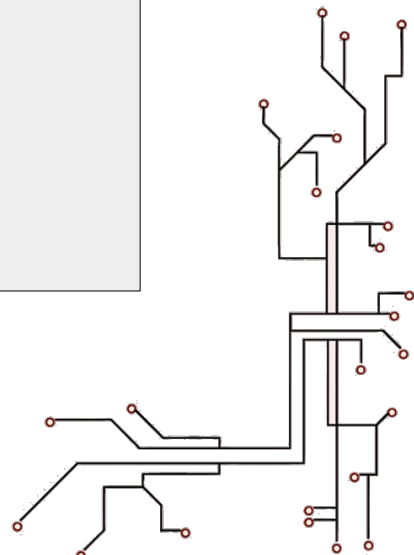
\* Try to Upload the program to the Arduino for a smoother Dimmer Effect.



\* Change the program such that the Potentiometer controls how fast the LED blinks, instead of brightness.

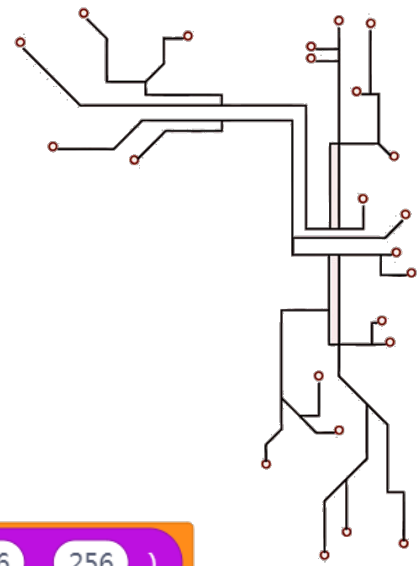
For instance:

A0	LED
0	1 blink a second
512	25 blinks a second
1023	50 times a second



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```
when clicked
  forever
    set Potentiometer to read analog pin ( A ) 0
    set x to map Potentiometer from ( 0 , 1023 ) to ( -256 , 256 )
    broadcast move
```

## Simple Joystick

### 3c) Extend Above Program

\* *Make Panda point towards the new X*

```
point in direction ?
```

\* *Make Panda look like it's walking by changing costumes*

```
switch costume to costume1 OR next costume
```

\* *Add a second Potentiometer to control Y.  
Like an Etch-a-Sketch!*

