

These slides serve as a visual aid for the lecture, not as a comprehensive document or script.

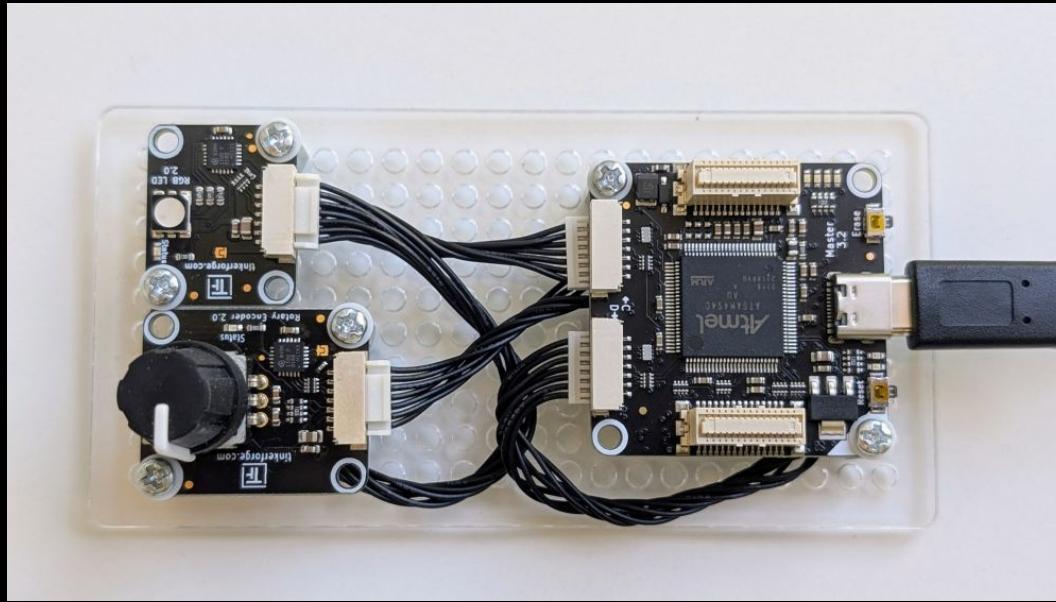
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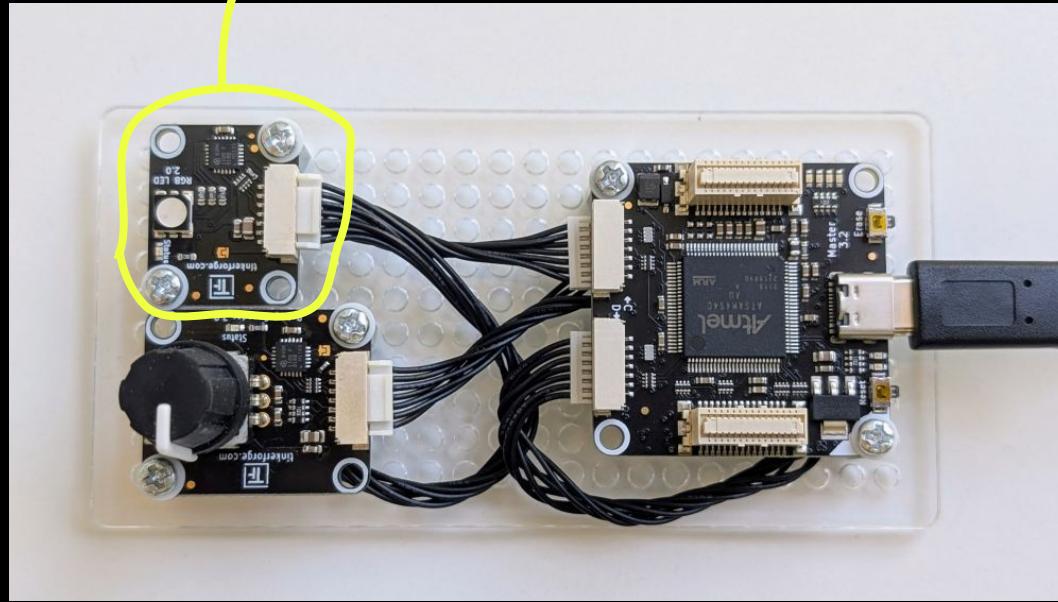
For any comments or feedback, please contact [n.meseth@hs-osnabrueck.de](mailto:n.meseth@hs-osnabrueck.de).

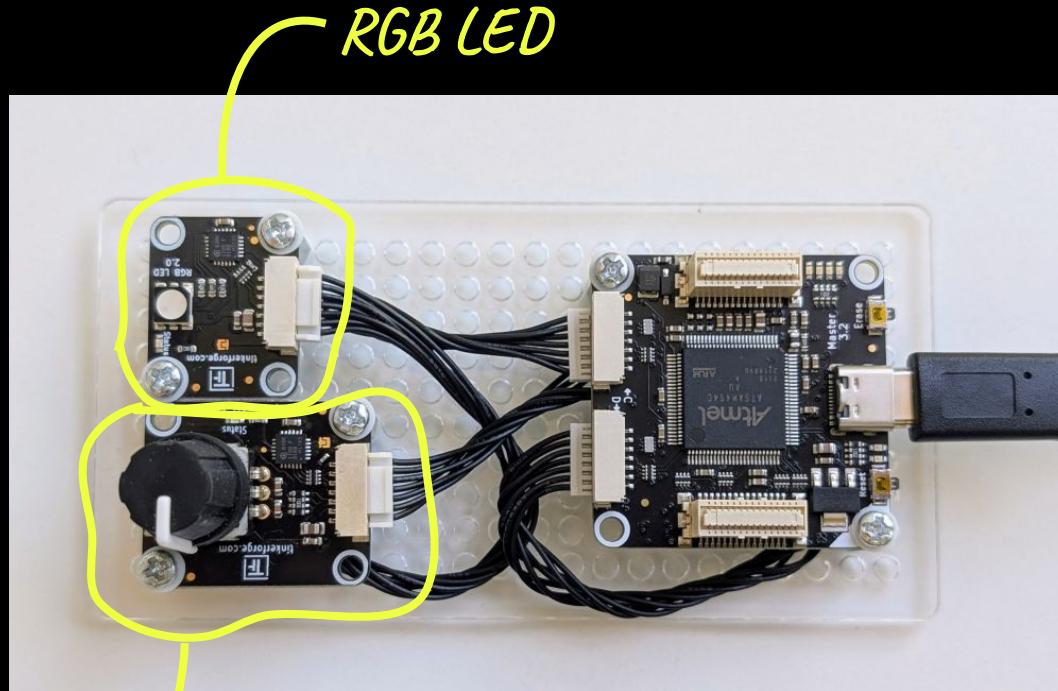


# IMAGES

Supporting slides for chapter 4 of the book  
*Hands-On Computer Science*

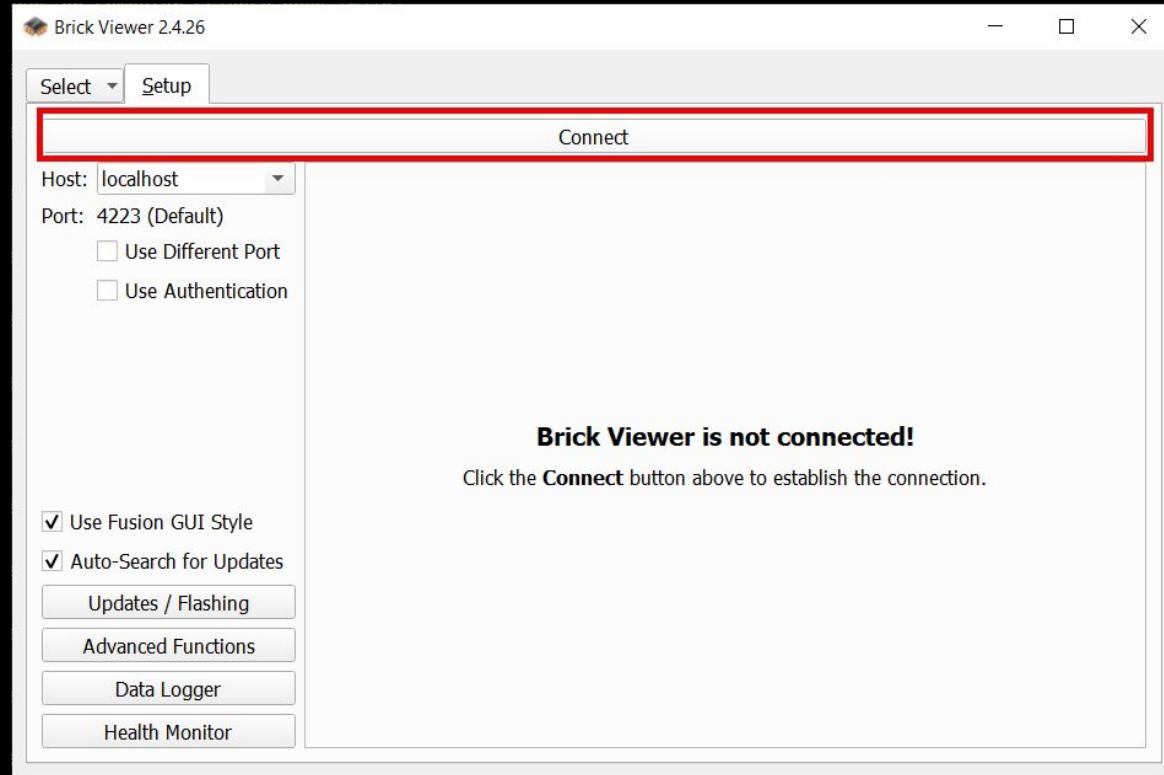


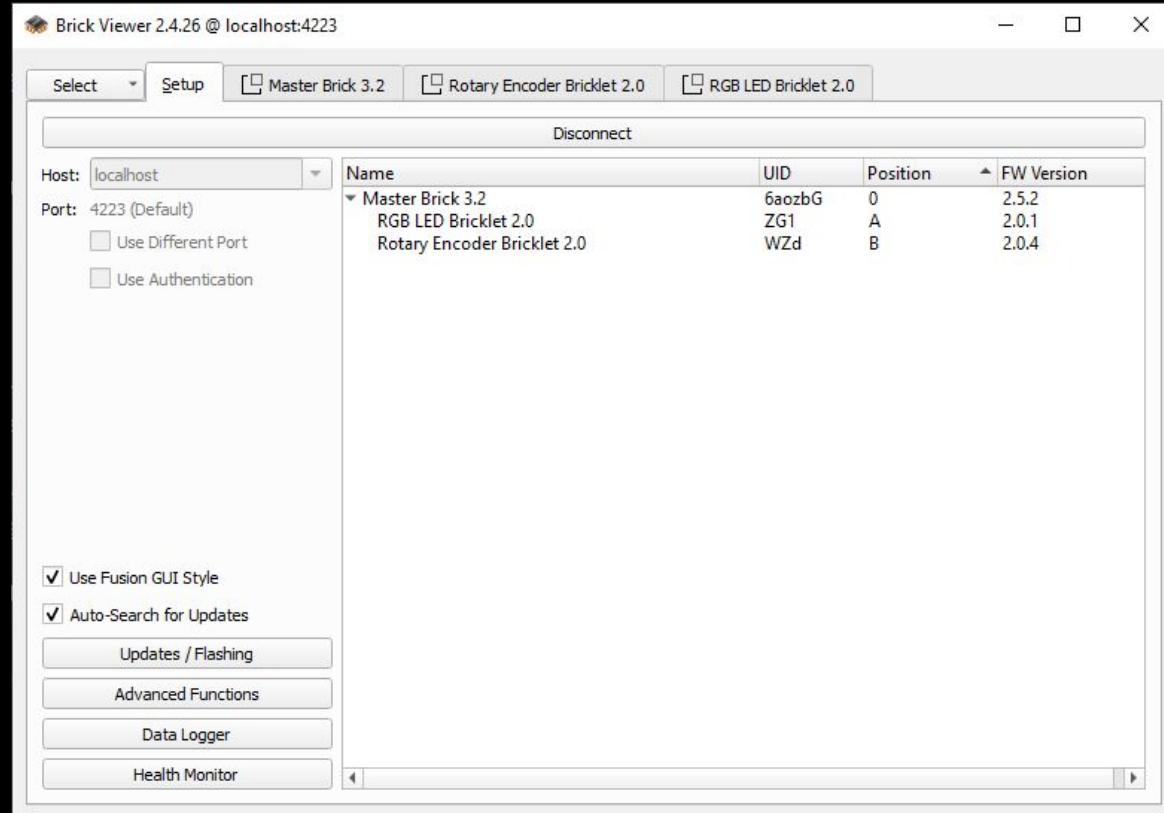


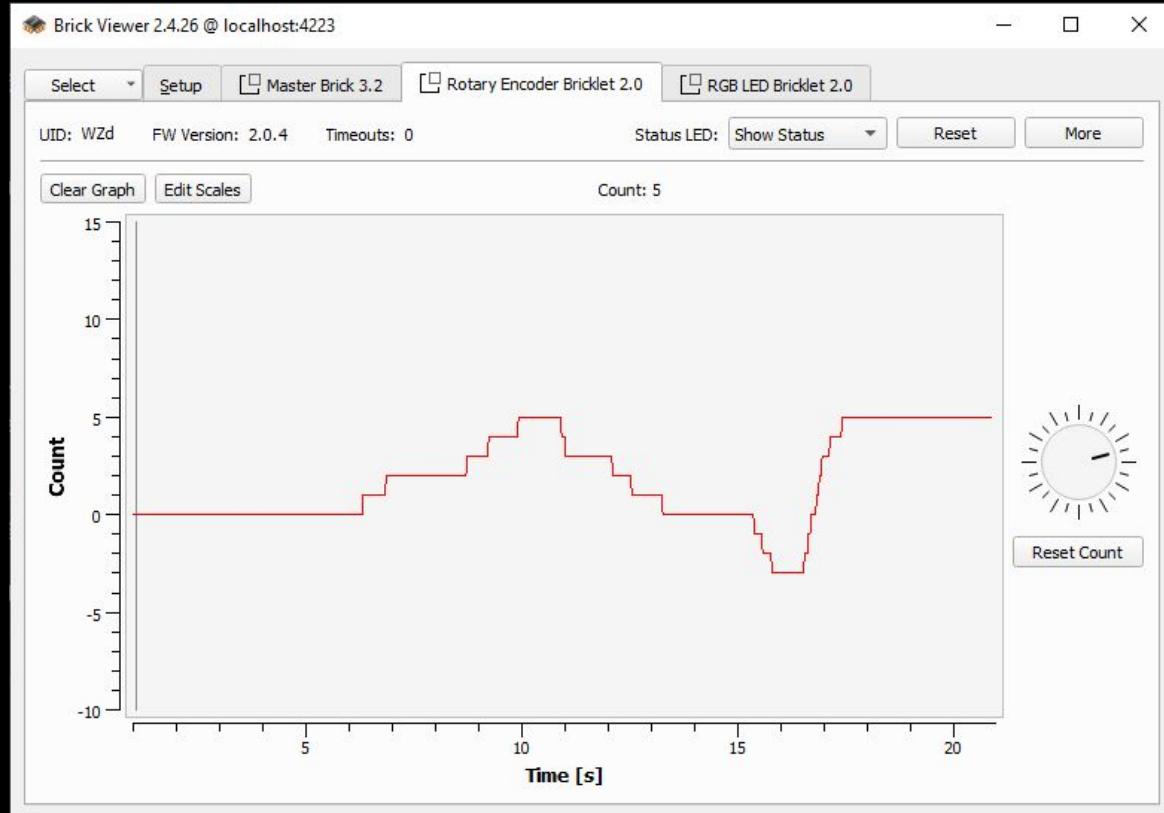


RGB LED

Rotary Encoder







# boilerplate code

```
from tinkerforge.ip_connection import IPConnection
from tinkerforge.bricklet_rotary_encoder_v2 import BrickletRotaryEncoderV2

ipcon = IPConnection()
ipcon.connect("localhost", 4223)
knob = BrickletRotaryEncoderV2("WZd", ipcon)
```

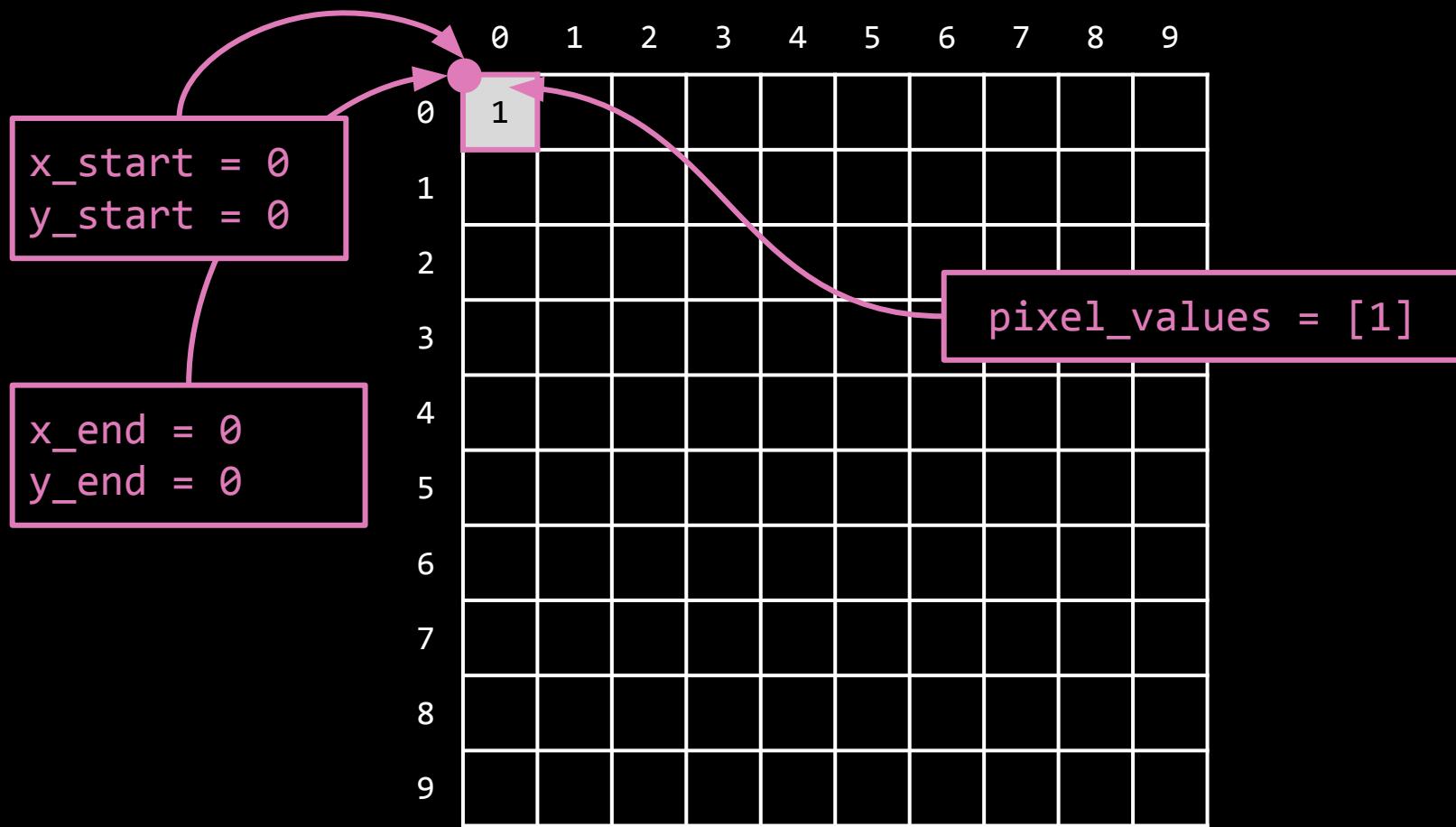
# reading the counter

```
from tinkerforge.ip_connection import IPConnection
from tinkerforge.bricklet_rotary_encoder_v2 import BrickletRotaryEncoderV2

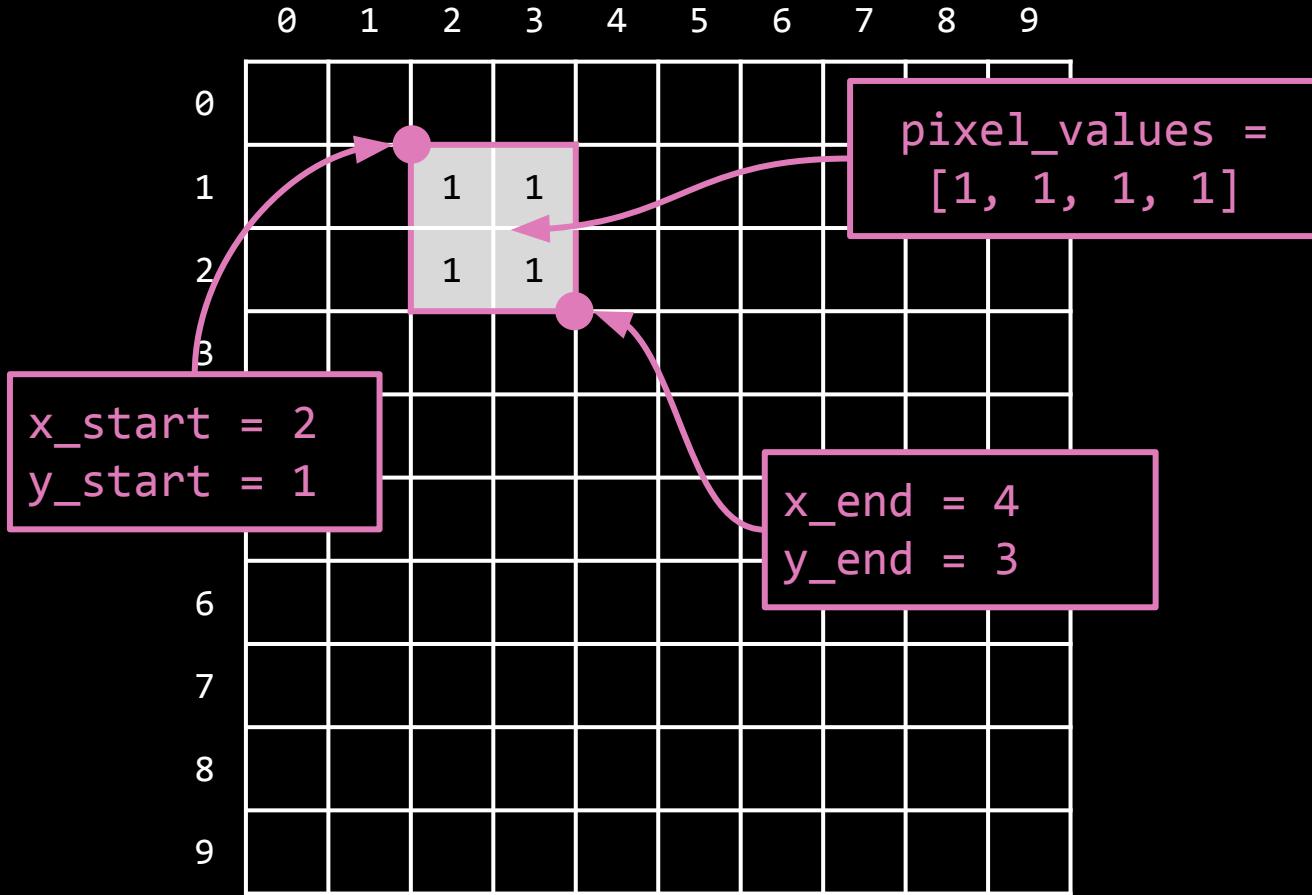
ipcon = IPConnection()
ipcon.connect("localhost", 4223)
knob = BrickletRotaryEncoderV2("WZd", ipcon)

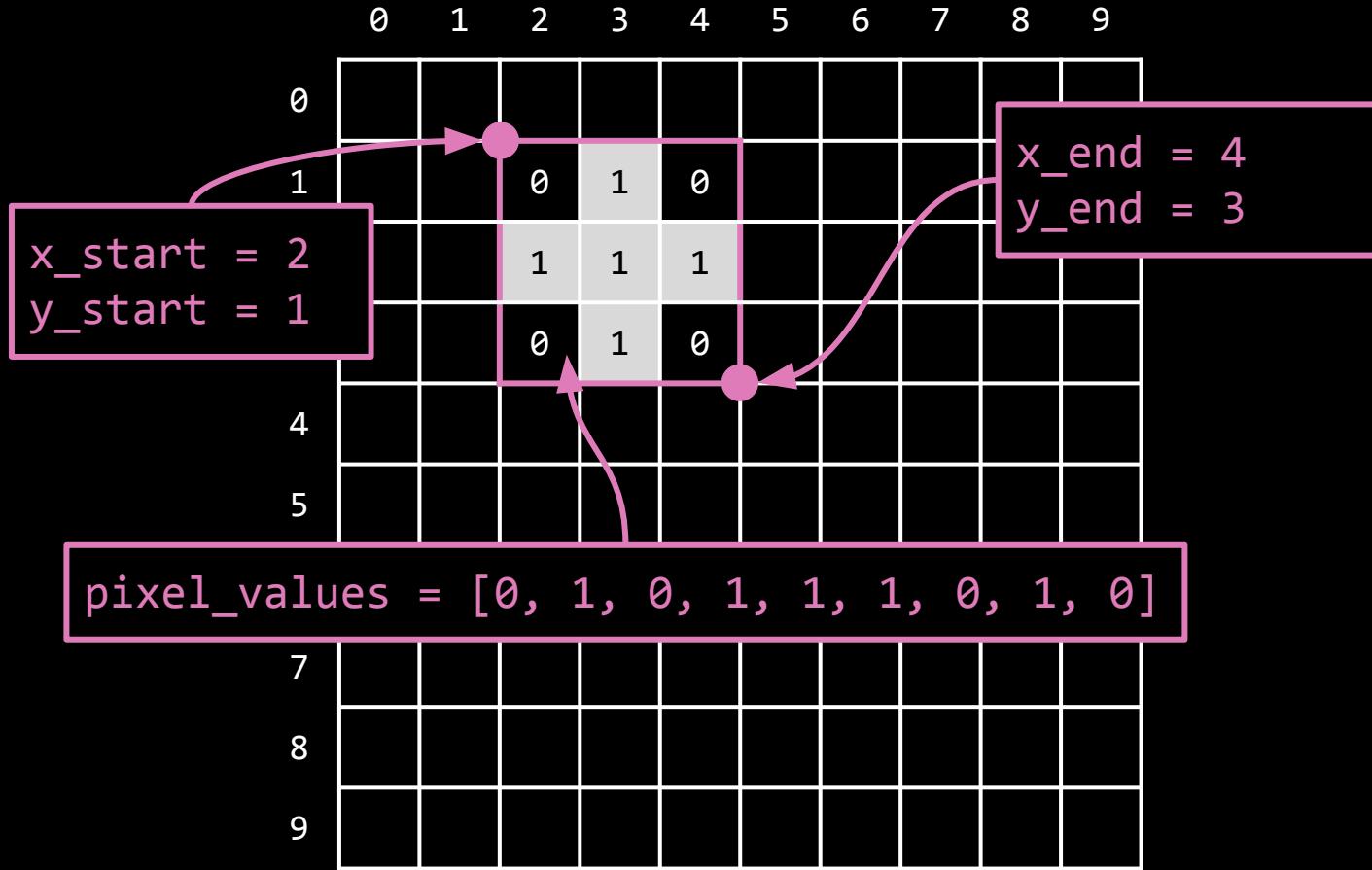
count = knob.get_count(reset=False)
```

# PIXELS

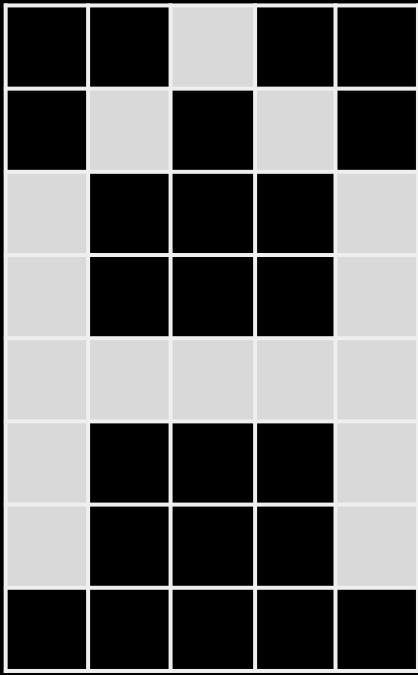


# BITMAPS

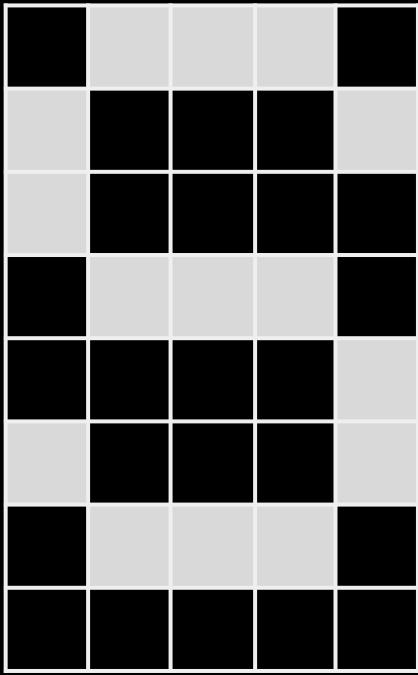




# LETTERS

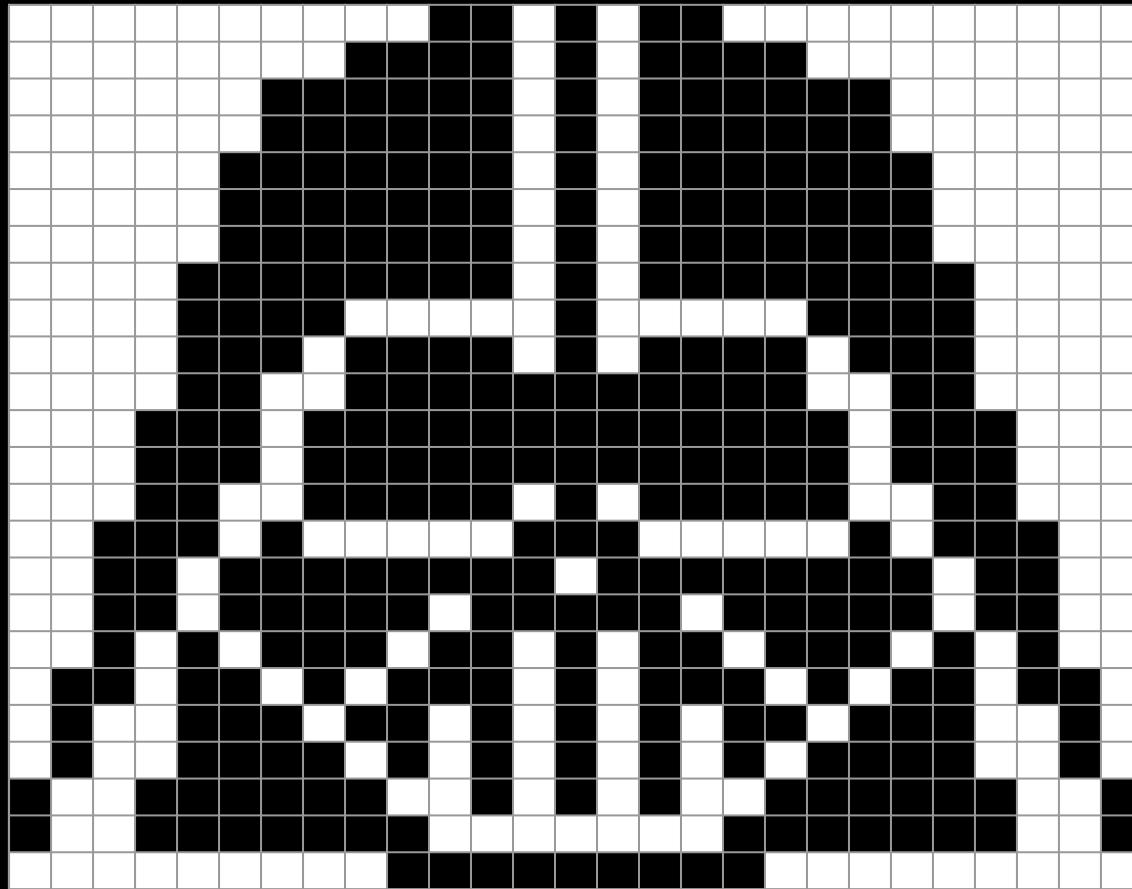


	0	1	2	3	4
0	0	0	1	0	0
1	0	1	0	1	0
2	1	0	0	0	1
3	1	0	0	0	1
4	1	1	1	1	1
5	1	0	0	0	1
6	1	0	0	0	1
7	0	0	0	0	0



	0	1	2	3	4
0	0	1	1	1	0
1	1	0	0	0	1
2	1	0	0	0	0
3	0	1	1	1	0
4	0	0	0	0	1
5	1	0	0	0	1
6	0	1	1	1	0
7	0	0	0	0	0

# FROM IMAGE TO DISPLAY



xlsx

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	M
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program

binary list

[0, 0, 0, ..., 1, 1]



# ANIMATION

