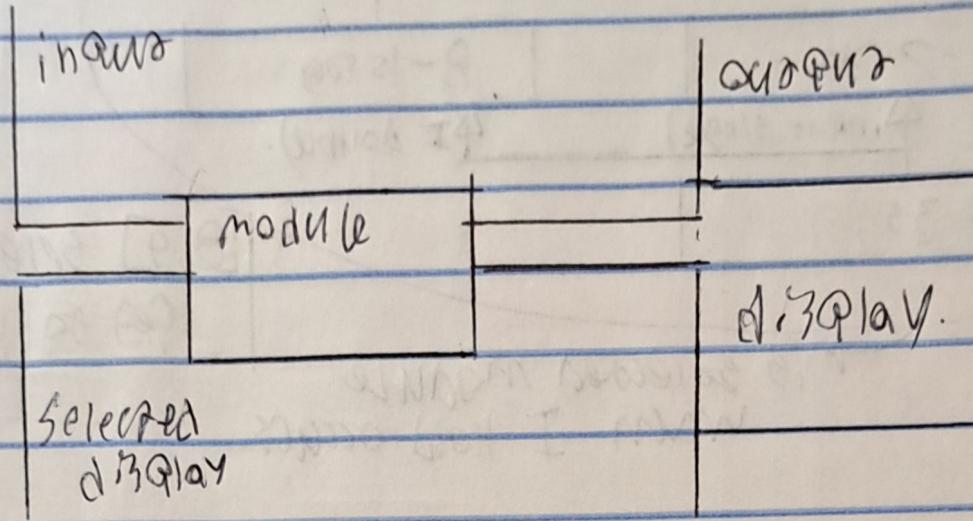


Unit 2

module  
~~All~~ display our own idea



To avoid disruptions to the functioning of the cameras, each module will have a separate display output which ~~can~~ outputs the value of any given aspect of the module : i.e. reg values, status bits, etc, etc.

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~m / A ~~2010~~ V idea  
(if  $UQ = \text{Switch off Position.}$ )

Hex

led.

Switch

... 9

1...1

button

0

Q

1

1

SW 9, 8, 7, 6, 5 + Needs collection.

displays

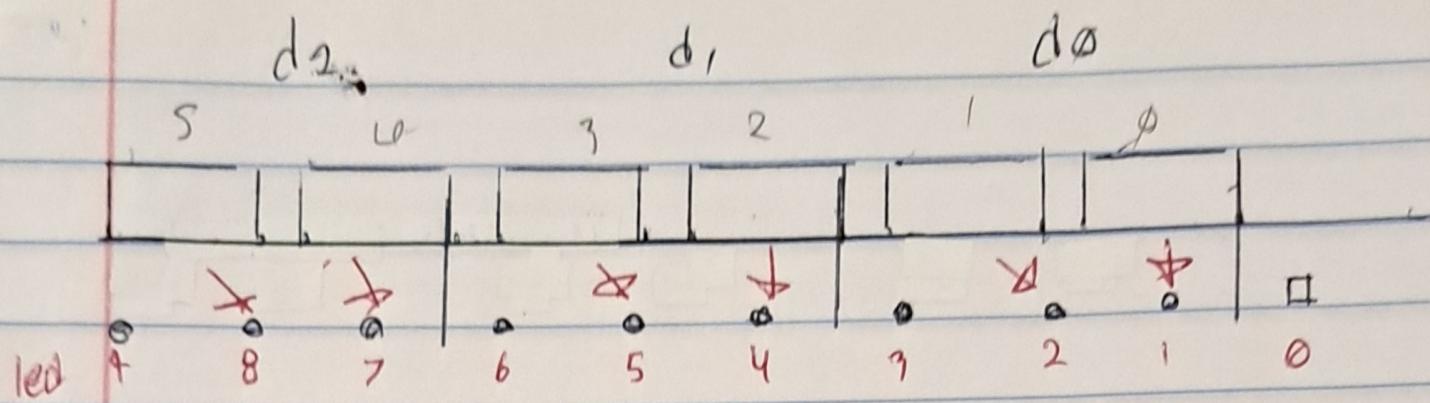
1x) (1) ✓  
 $(0000,000(9)) (\emptyset \emptyset)$ .  
 5, 1, 4, 2, 0, 6, 3

Now →

SW 9, 8.

(2, 4)

# new display idea



A) Since the decimal point doesn't work on the 7-seg display, the red in

! - our timer functionality should be  
both be contained in one module,  
when finished, it will connect to  
the whole design, so that  
you don't need to import it  
into every project.

! - Push buttons are default high, then go  
low upon press

! - Segments are turned on by supplying  
low logic level, at  $\square_{mmmm}$  → closer to you.

! - Sensors provide high logic when far away,  
low when close.

! - LEDs go high upon high logic level - !

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## Wire Assignments:

red: (Programmed data (algorithm))

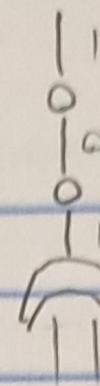
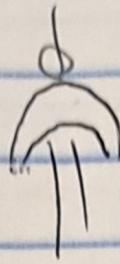
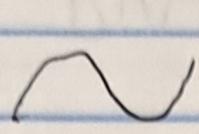
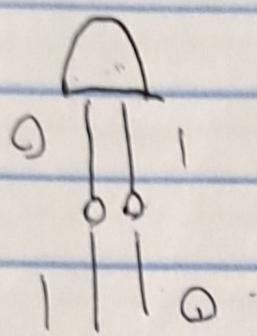
yellow: (long address) (data line)

blue: (inner module connection) (generic)

green: (control signals)

black: (ground, generic)

white: (VCC)

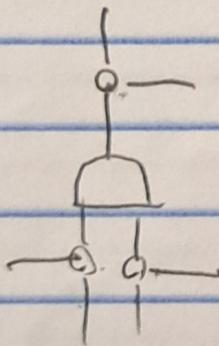


A

Q Q I I A

Q Q O I B

Q Q O I ~~X~~



Sw.

A	B	out
0	0	0
0	1	0
1	0	0
1	1	1



And

A	B	out
0	0	0
0	1	0
1	0	0
1	1	1



Or

A	B	out
0	0	0
0	1	1
1	0	1
1	1	0



Xor.

A	B	out
0	0	1
0	1	0
1	0	0
1	1	1



## !- important reminders -!

(keep this page with the last thing you were working on)

- > James Co provides a 10% discount on the first purchase on ground markers, thus (make a new account with every purchase)
  - Also does a 5% discount for students.
- > More complex chips (i.e. more add-ons) often cost less than less complex chips.

LED indicates ideal brilliance.

Yellow  $\rightarrow$   $1\text{ k}\Omega$ .

Red  $\rightarrow$   $2\text{ k}\Omega$ .

Blue  $\rightarrow 10\text{ k}\Omega$ .

Green  $\rightarrow 10\text{ k}\Omega$ .

White  $\rightarrow 5\text{ k}\Omega$ .

## AIU test check 1:50. 9/24/2021

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
And	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Not A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Not B	✓														
OutA	✓														

6, And → inverting issue, (B)

[✓]-  
[✗]-

7, And → inverting issue, (B)

8, And → inverting issue (A)

9, And → inverting, (A)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
XOR A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
XOR B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

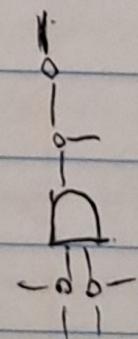
OutQ12

OC

Qnd.

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	X	X	X	X	X	X	X	X	X							

! (Remember), bus is DM74LS240, so circuit is



# connection measurements.

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exposed wire len → bb. A connection  
(A)

Power coil wire len. (B) →

standard Power coil Jumper len. → (C)