Physical Computing
WEEK 07
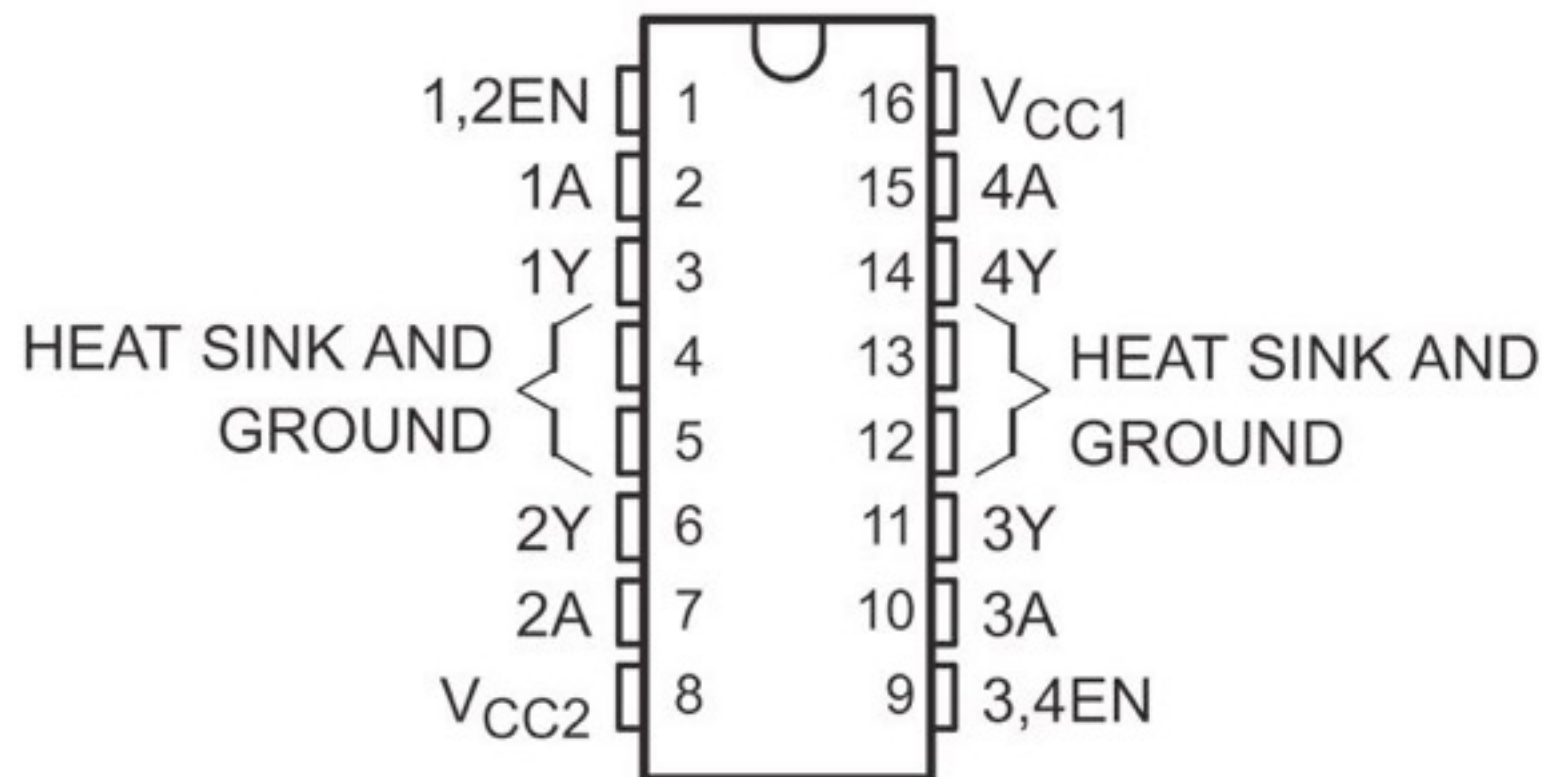
https://www.youtube.com/watch?v=5thxBgew7N0

H Bridge

Transistors that help us control the direction of the motor on an IC
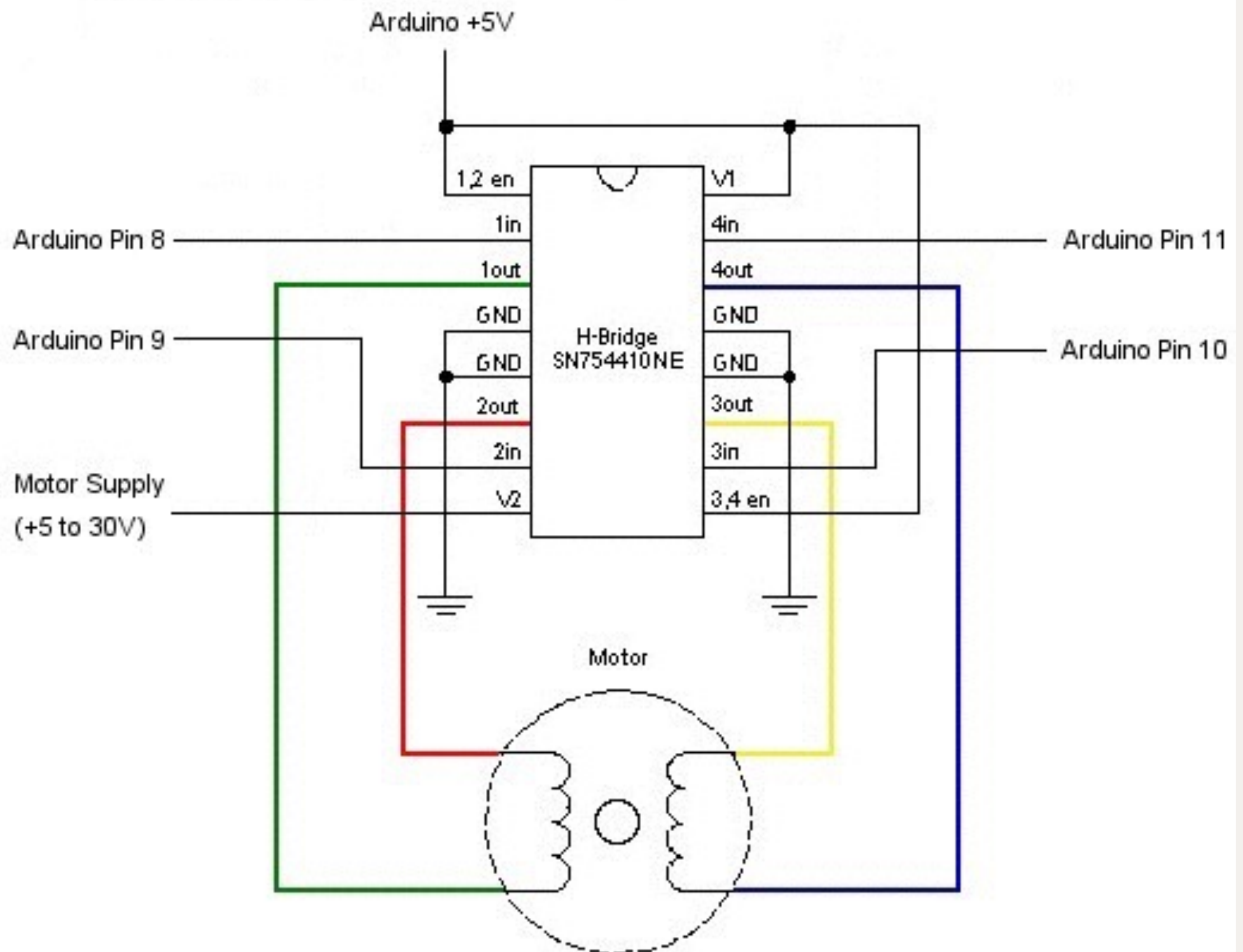
SN754410
QUADRUPLE HALF-H DRIVER

(TOP VIEW)

1,2EN	1	16	V_{CC1}
1A	2	15	4A
1Y	3	14	4Y
HEAT SINK AND GROUND	4	13	HEAT SINK AND GROUND
	5	12	
2Y	6	11	3Y
2A	7	10	3A
V_{CC2}	8	9	3,4EN

FUNCTION TABLE
(each driver)

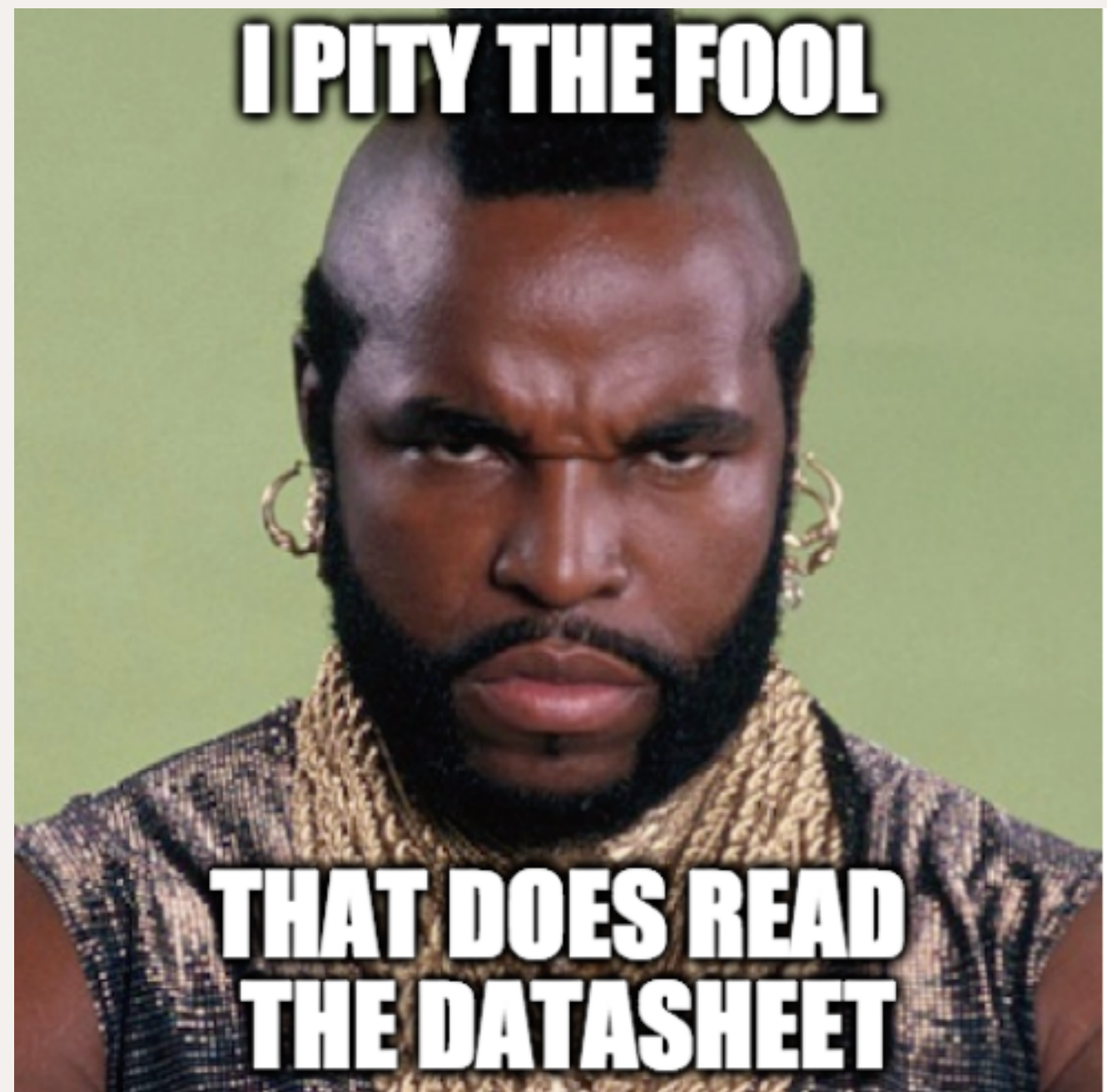| INPUTS[†]		OUTPUT
A	EN	Y
H	H	H
L	H	L
X	L	Z

H = high-level, L = low-level
X = irrelevant
Z = high-impedance (off)
[†] In the thermal shutdown mode, the output is in a high-impedance state regardless of the input levels.

Arduino +5V

1,2 en   V1

Arduino Pin 8 — 1in   4in — Arduino Pin 11

1out   4out

GND   GND

Arduino Pin 9 — GND   GND — Arduino Pin 10

H-Bridge
SN754410NE

2out   3out

2in   3in

Motor Supply
(+5 to 30V) — V2   3,4 en

Motor

Bipolar Stepper Motor Driver

RTFM or use the datasheet fool!

I PITY THE FOOL

THAT DOES READ THE DATASHEET

http://www.ti.com/lit/ds/symlink/sn754410.pdf

Oscilloscopes

How to see your signal change over time basically, they graph voltage change as a graph

Great for fast changes and seeing a signal over time

Each one is slightly different.

http://www.instructables.com/id/Oscilloscope-How-To/

Bench power supplies

Current projects

http://www.musicfromouterspace.com/