Movement 03

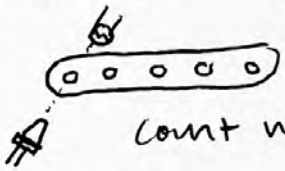
Warm-up: rectangles, + stripes
triangles

Tile an area +
use stipples to differentiate.

Attendance

practice

Last time: distance encoders.



count notches ⟷ distance.

short de.

$P(\text{⊙}) = ?$ Analytical = $\frac{\text{⊙} \times 5}{\text{⊙⊙⊙⊙⊙}}$

$P(\text{Ø}) = ?$ Analytical = $\frac{1}{1024}$

# of vals.

Experimental?

Agent —act→ world

↖ sense.

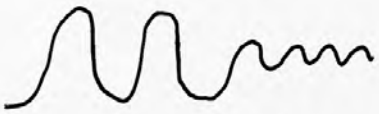
Action w/ motors (DOF)

Agent must sense itself... part of the world!

output can be Lo ↔ Hi
if there's analogRead, then analogWrite
LED brightness same concept.

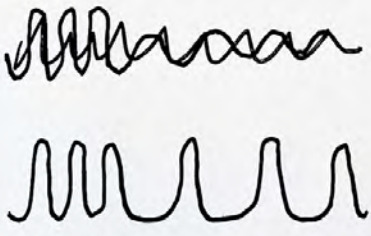
AM: amplitude modulation.

High V = More output



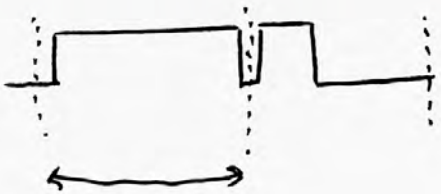
Hi Lo.

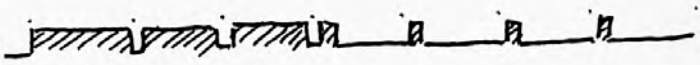
FM: frequency modulation



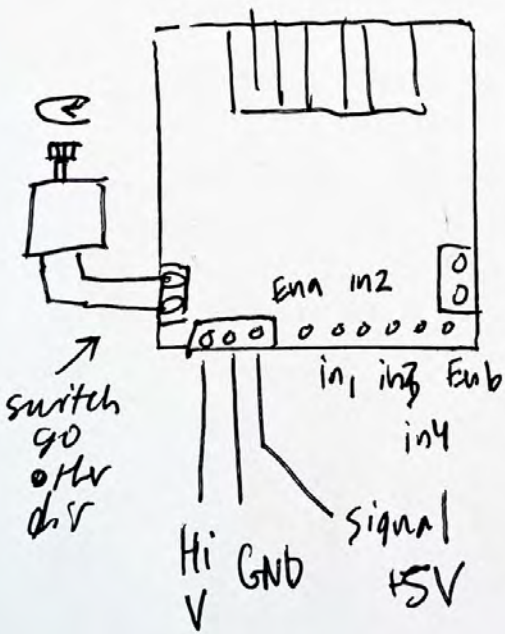
AM/FM: yes, like radio!

pulse-width modulation





more on
= more energy
in system



in1 : Hi } dir
in2 : lo
Ena : on/off

analogWrite
(ena, 0-255)

Higher=
more on

Notice: no sensor, no feedback.

★ How do you measure how much the wheel has rotated?

★ Bad encoder demo.

you can now drive your robots. Lab 3 is your first group lab w/ robot.

→ Group work review.

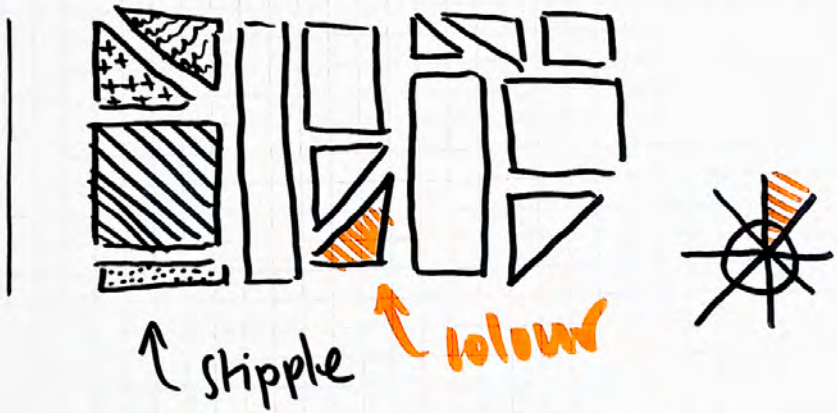
→ survey

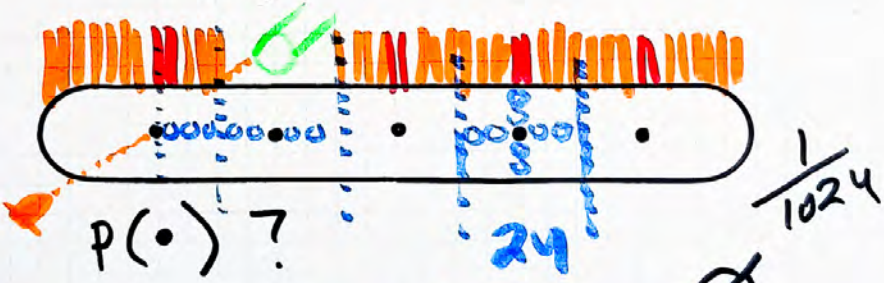
project intro

★ Brainstorm

COGS 300 **Movement 03** Jan 20/26

Warm up: tile your page with rectangles + triangles.

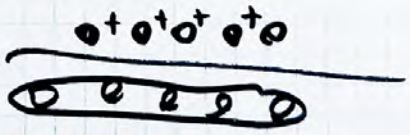


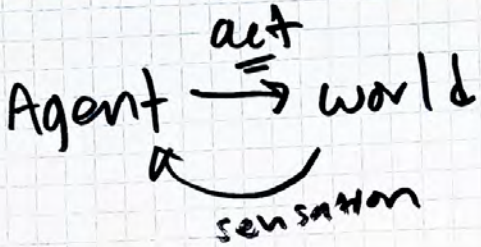


time

5 x 1/24

P(⊘) ?

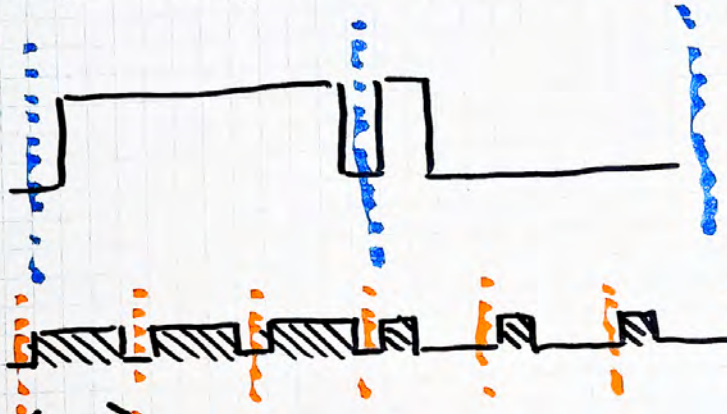




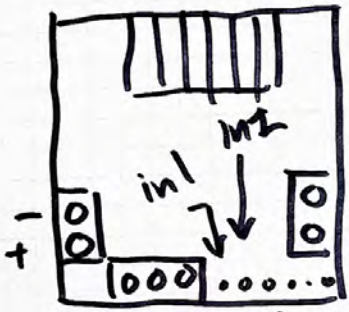
AM: amplitude modulation

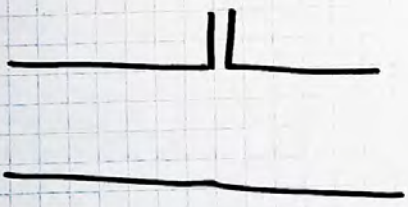
FM: Frequency modulation

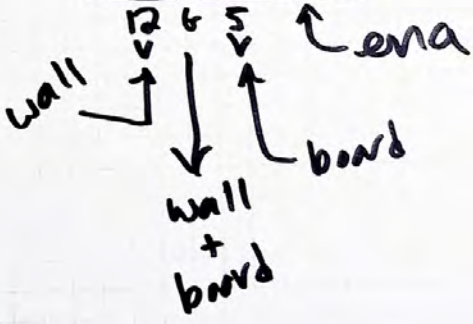
Pulse-width modulation



duty cycle







(4)

Group Work

project

Brainstorm project ideas.

post-mortem

pitch + sketch