List of things to do 136 cf

* Gated mechanism to go up and down
  + Gate up then IR on; gate down then IR off
  + Only 1 gate
  + Automatic, every few seconds (maybe 5) switch between up and down
  + Controller from rpi
* Flipper mechanism
  + Manual mode
    - When receive a key press, flick open; when receive another key press close back
      * I think can use the same key for both
        + So if the key is pressed again, then just flip the command (ie. If prev command was open, then got keypress, then command becomes close)
  + Autonomy mode
    - When detect ir signal (ie. Gate is open), then shoot the ball (ie. Flick open the flap)
    - After flick open, sleep(2) then close flipper; then sleep(3) to wait for the gate to off the IR sensor --> if don’t sleep, then the flipper will keep flipping even when no ball
  + Use a key press to switch between autonomy and manual mode?
    - Can read it as an input to the code instead of a keypress?
  + [Servo - Generic Metal Gear (Micro Size) (sgbotic.com)](https://www.sgbotic.com/index.php?dispatch=products.view&product_id=2159)
    - [S05NF STD - servo medium with metal gear - Kamami on-line store](https://kamami.pl/en/retired-products/201372-s05nf-std-servo-medium-with-metal-gear-rob-10333.html) (tells the pwm pulse range for max rotation)
  + [Basic Servo Use With the Raspberry Pi and GpioZero - Raspberry Pi Spy (raspberrypi-spy.co.uk)](https://www.raspberrypi-spy.co.uk/2018/02/basic-servo-use-with-the-raspberry-pi/)
* Sensing IR of the gate
  + When detect IR signal, print “gate open”
* Motor driver
  + Follow the tutorial
  + [DC Motor Driver HAT for Raspberry Pi Wiki - DFRobot](https://wiki.dfrobot.com/DC_Motor_Driver_HAT_SKU_DFR0592)

[Raspberry Pi Documentation - Raspberry Pi hardware](https://www.raspberrypi.com/documentation/computers/raspberry-pi.html#raspberry-pi-4-model-b) (for pinout)