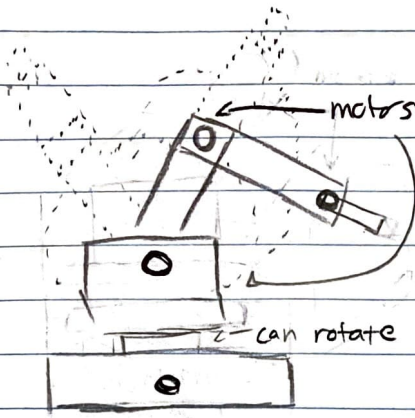
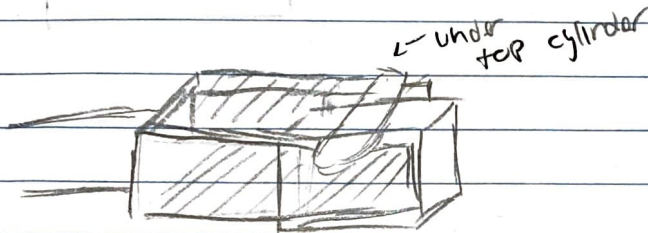
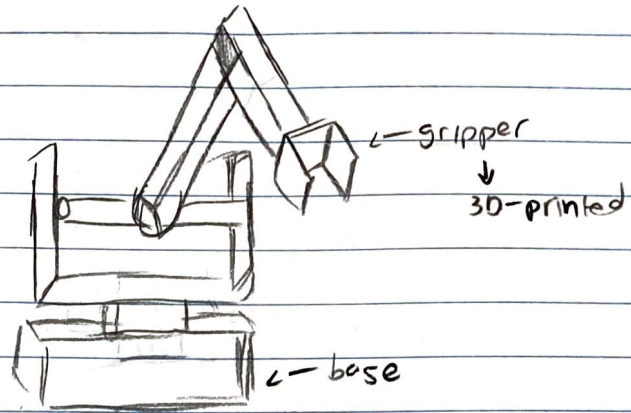


square Robotic Arm with gripper

side view



iso - view



How it grips box

Advantages

- no wheels
- efficient point scoring

disadvantages

- Hard to control
- Hard to fabricate (maybe)
- complex to design

Failure Mode

1 joint breaks =
all breaks

gripper fails = all fail

Risks

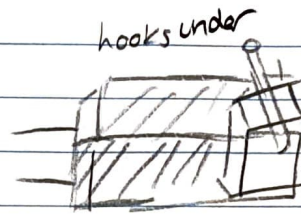
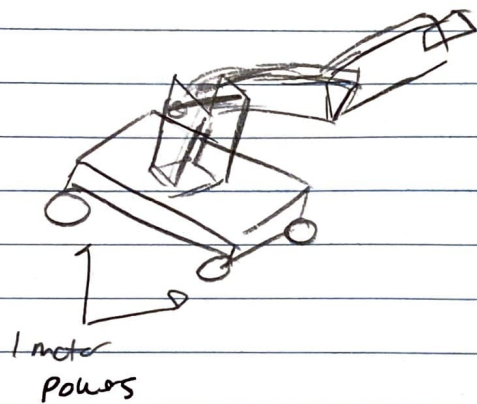
All parts reliant on each other
Might be hard to design under constraint size

Tests

- enough energy to grip box?
- can grip box?
- enough space?
- long enough?

Robot Arm on Car

iso-view



(only back & forth)

Advantages

- wheels
- mobile

disadvantages

- less motor
- account for momentum & moving of car
- wobbly arm

Failure mode

- grip fails
- joint fails

Risks

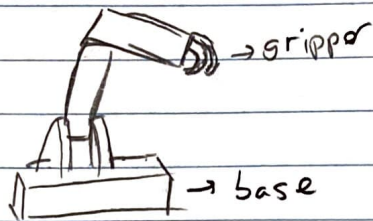
- size constraint
- fragile arm when moving
- complex

Tests

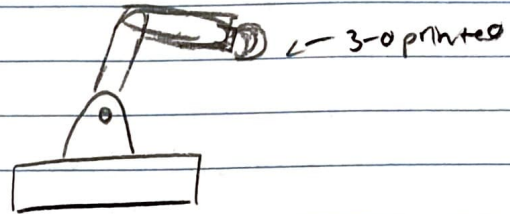
- will it fit?
- grip strength?
- long enough?

Robotic Arm with Hook grip

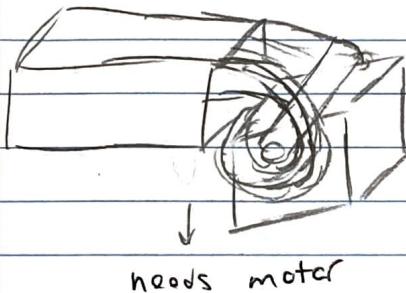
iso-view



side-view



How it hooks box



advantages

- no wheels
- more control on grip

disadvantages

- hard to design
- complex assembly & design
- needs motor on gripper

Failure Mode

- grip fails
- one joint fails

RISKS

- size constraint
- complex

Tests

- will it fit?
- grip strength?
- long enough?