Next Steps for Your Final Project

Reflect on your midterm project. You may expand your midterm project, or take a new approach to a Tangible User Interface that takes advantage of human senses beyond traditional user interfaces.

You may continue to work as a group (maximum of 3 members) or as an individual. If you work in a group, be clear about each member's role in the project.

Next Steps for Your Final Project

4/4
Finalize your group for project and post your proposal on the course website. Create a list of materials you need. (We may be able to help.)

4/13 & 4/18
In-class final project progress report and critique.

5/2 & 5/4
Final project exhibition. Present your prototype.

5/9 Final write up due in the ACM SIGCHI Extended Abstract format (6-8pgs)

Recommendations

Do your background research

Towards “publishable quality” work

- Avoid making redundant effort
- Discuss rationale for your design and your contributions

Engage in many design critiques, early

Iterate! Share your idea with others and test its potential, early.

Use the resources

Kimiko: Mondays 2-3pm at South Hall 110 and by appointment.
Daniela: by appointment
Niranjan: by appointment

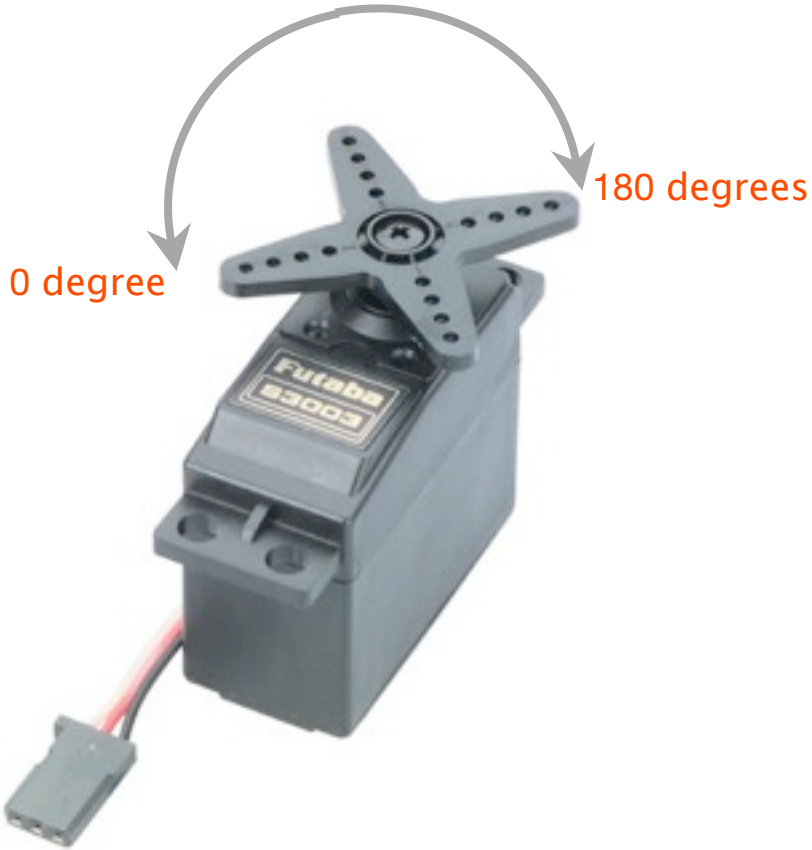
week
08

Output 3: Servo Motors

Making motions with servo motors

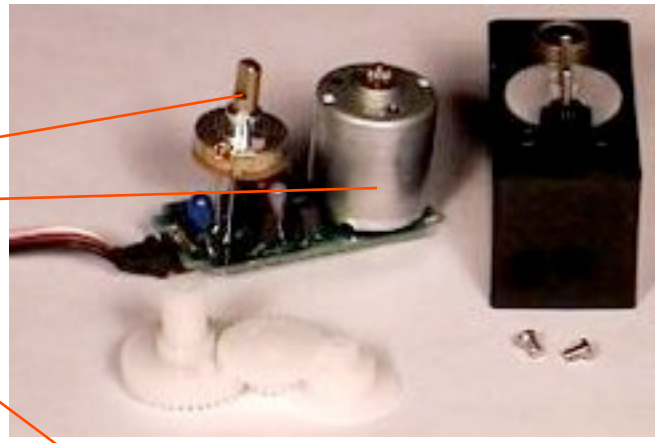
Servo Motor

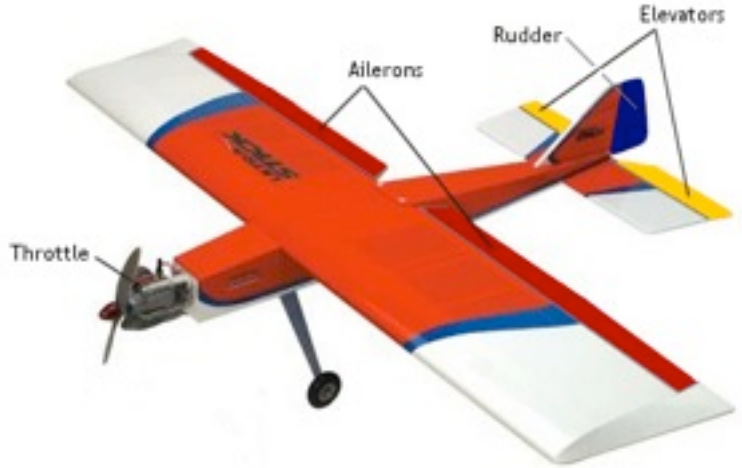
Servo Motor

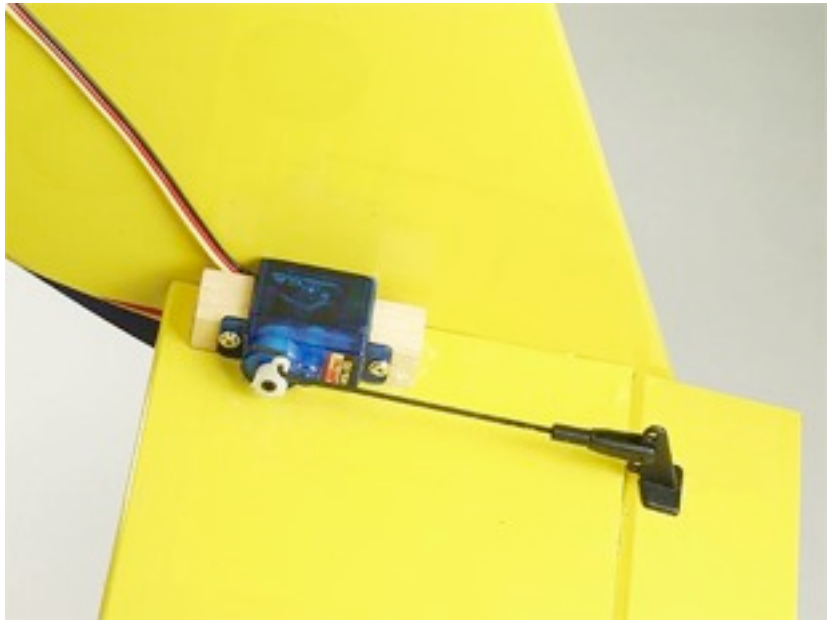


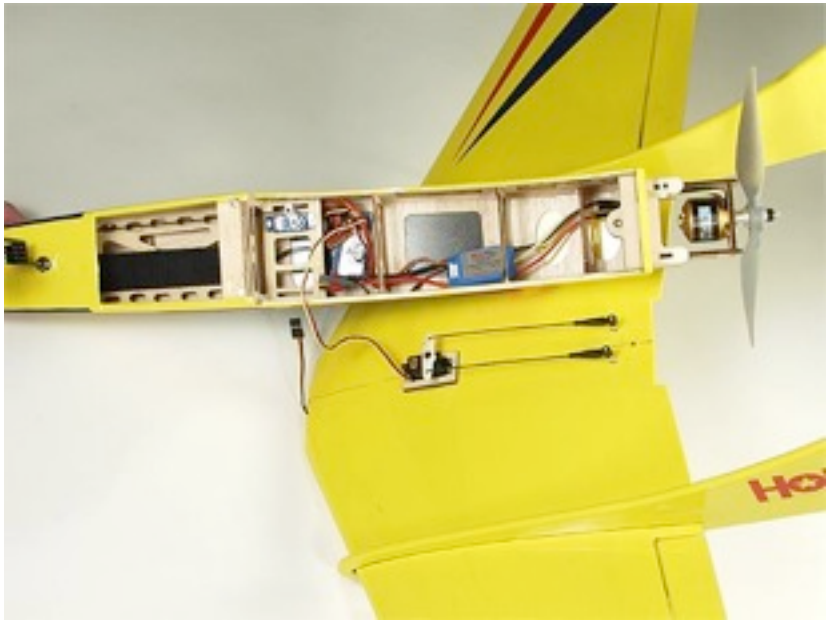
Servo Motor

1. Gears
2. Potentiometer
3. Motor
4. Electronics

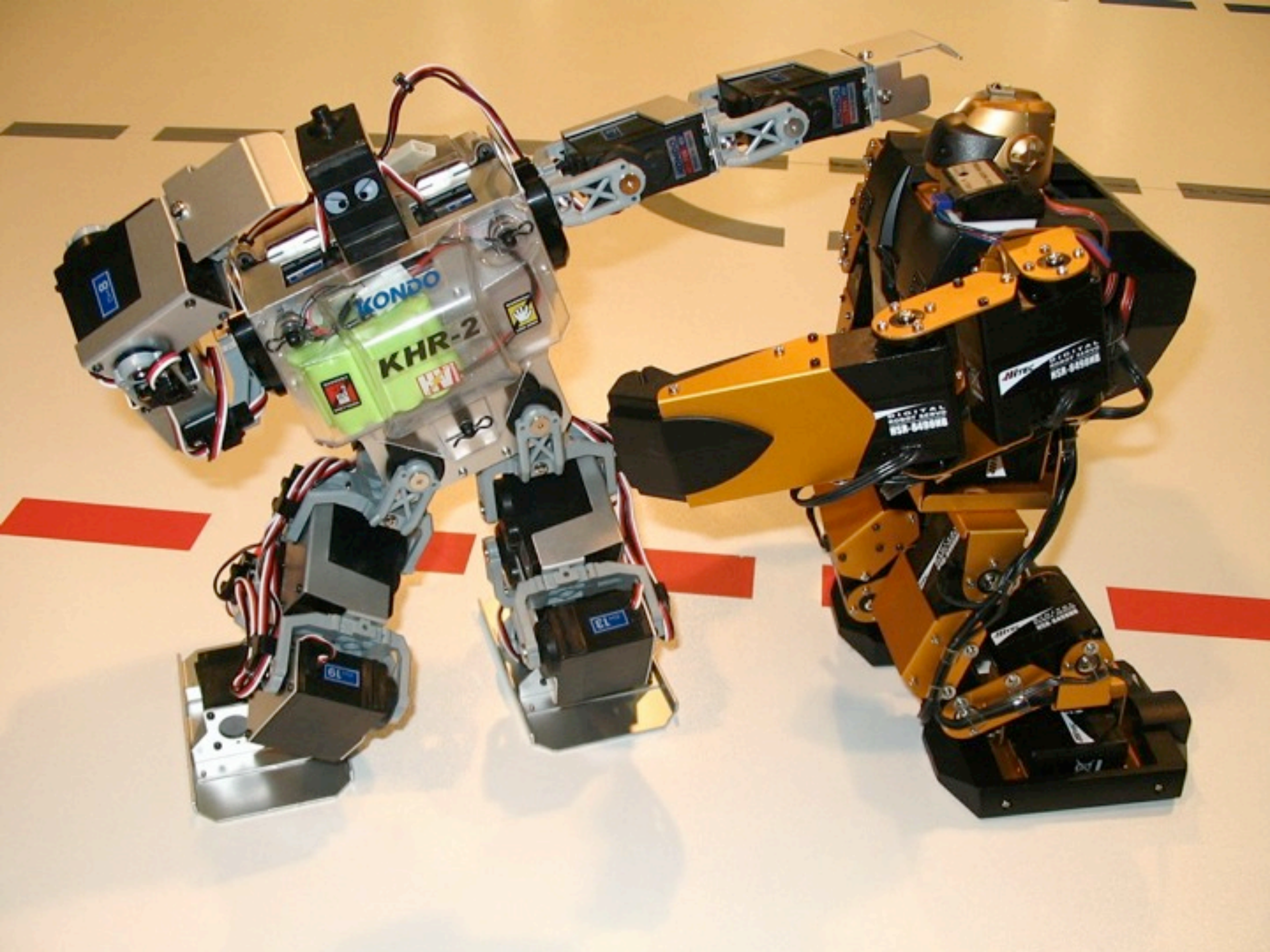


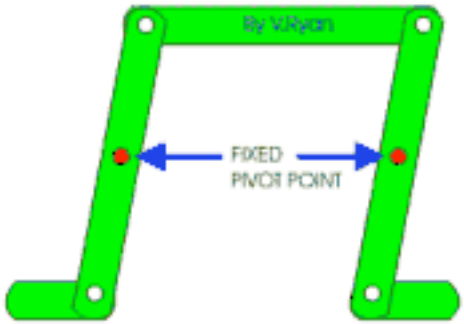






http://www.hobby-lobby.com/vdiamond.htm


KONDO
KHR-2



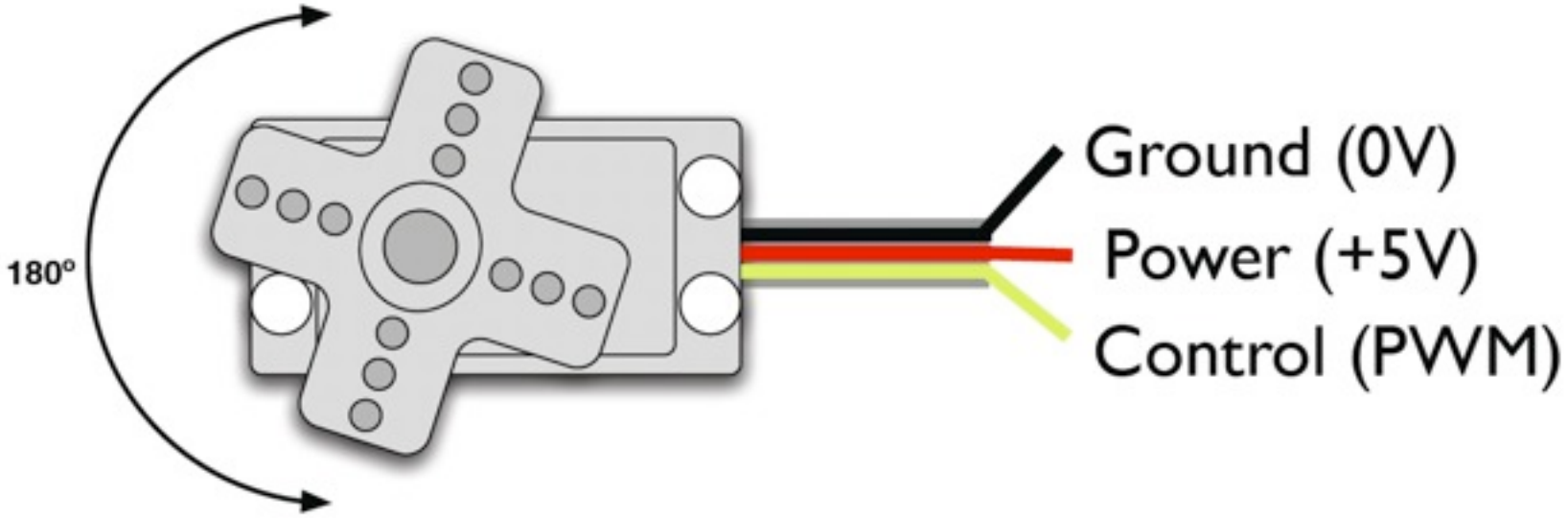
Parallel Motion Linkage

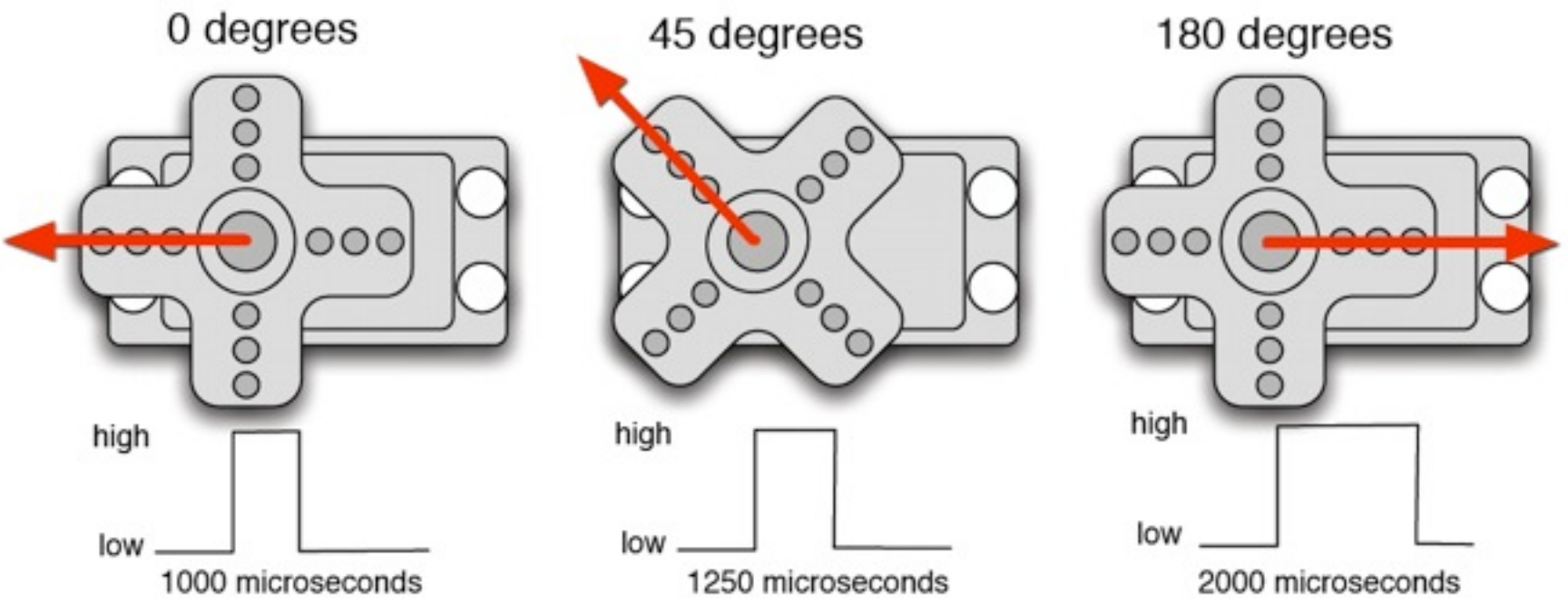
Mechanism Inside a Toolbox

http://www.technologystudent.com/cams/link1.htm

4~6g

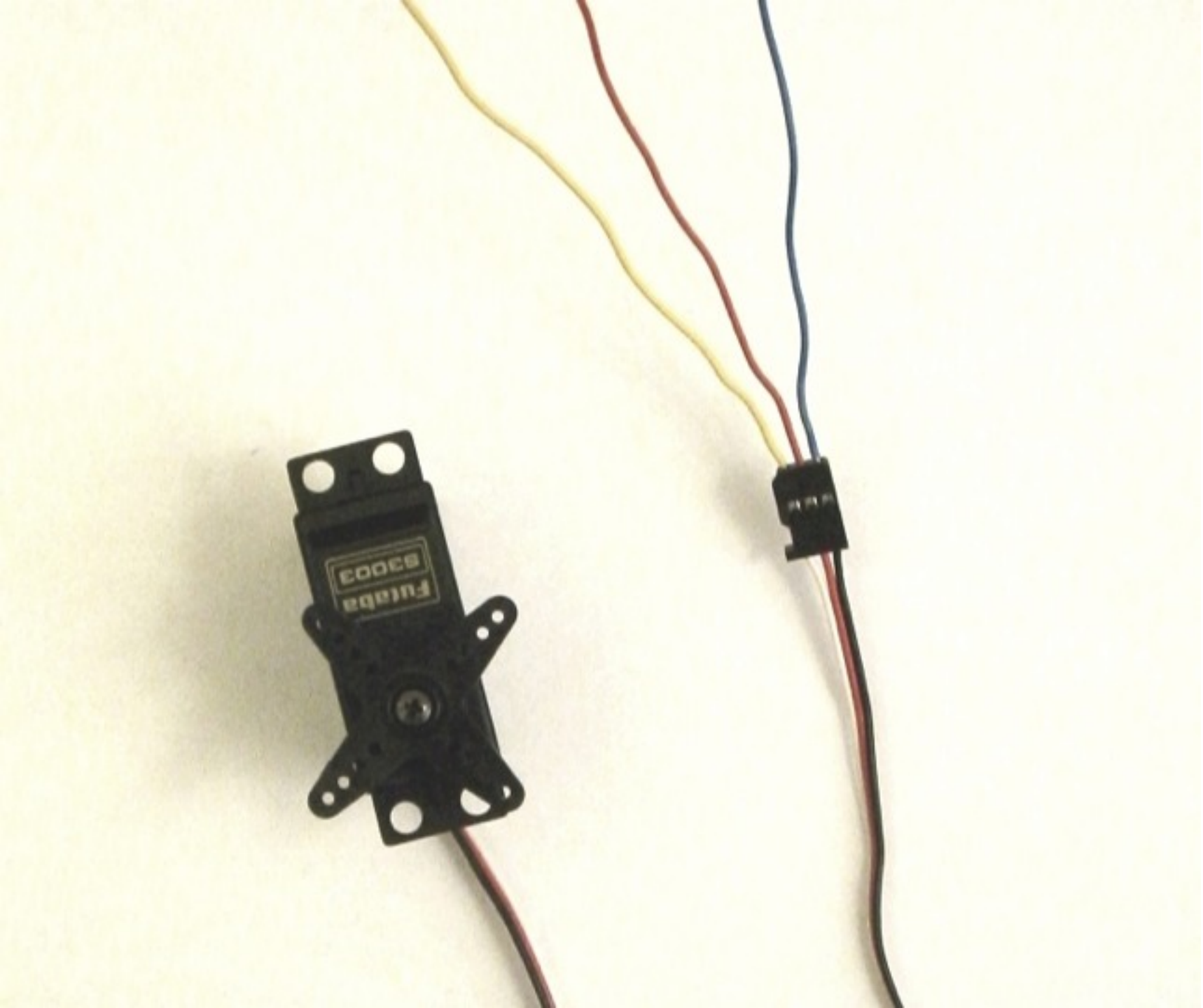
37.2g (1.3oz)

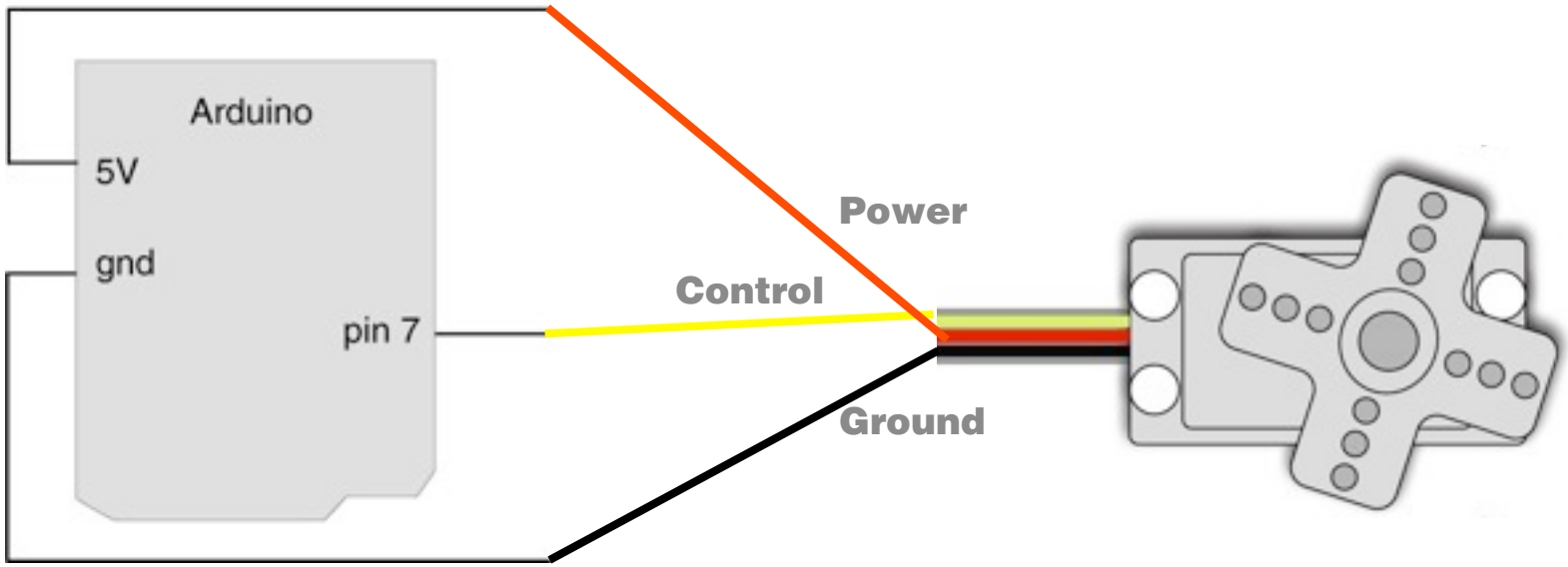

180°
Ground (0V)
Power (+5V)
Control (PWM)

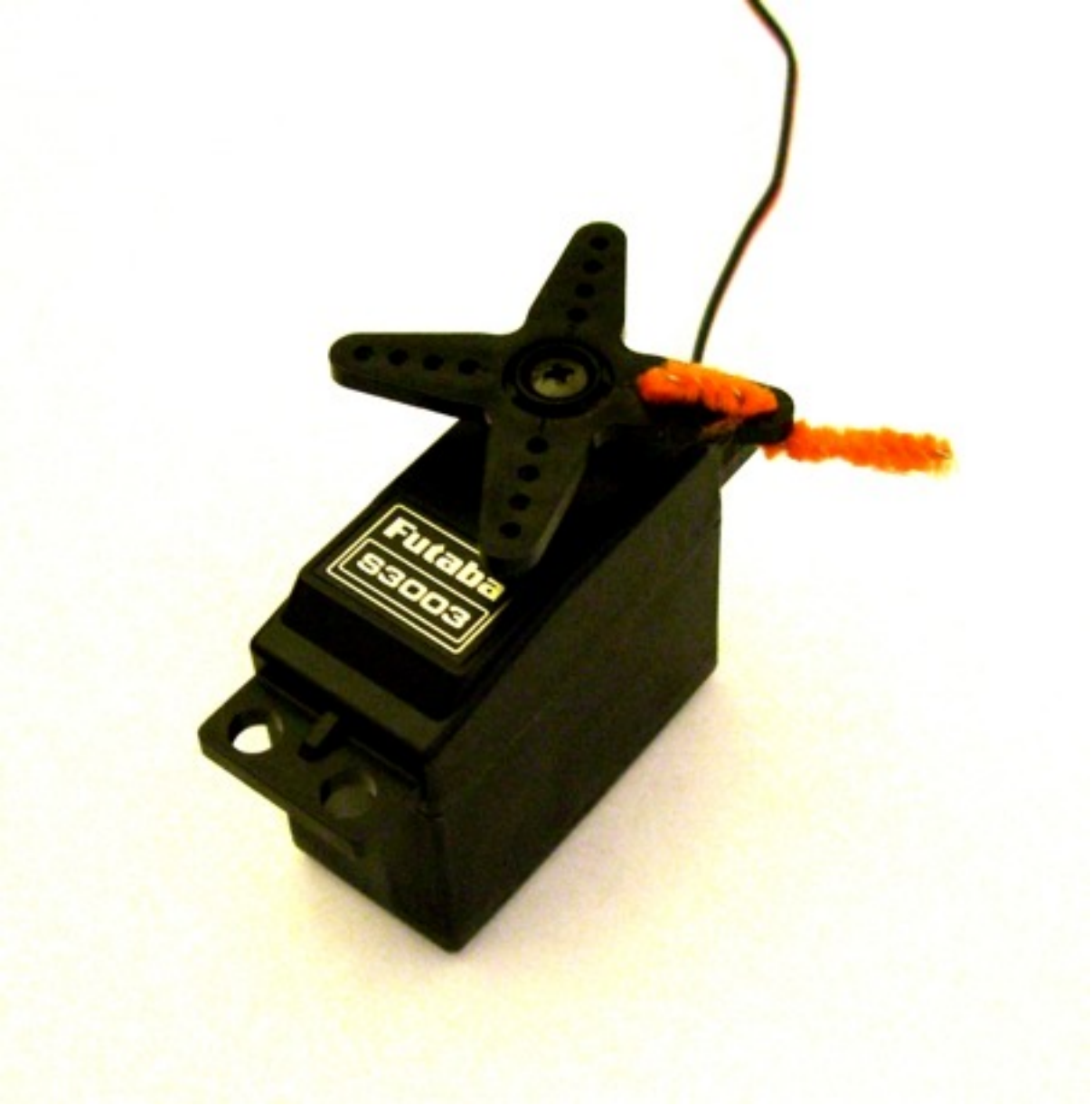

0 degrees
high
low
1000 microseconds
45 degrees
high
low
1250 microseconds
180 degrees
high
low
2000 microseconds

In Class Exercise

1. Connect the servo to Arduino
2. Control the servo via serial communication
3. Control the servo with a pot
4. Make a crawler!


Futaba
S3003


Arduino
5V
gnd
pin 7
Power
Control
Ground


Futaba
S3003

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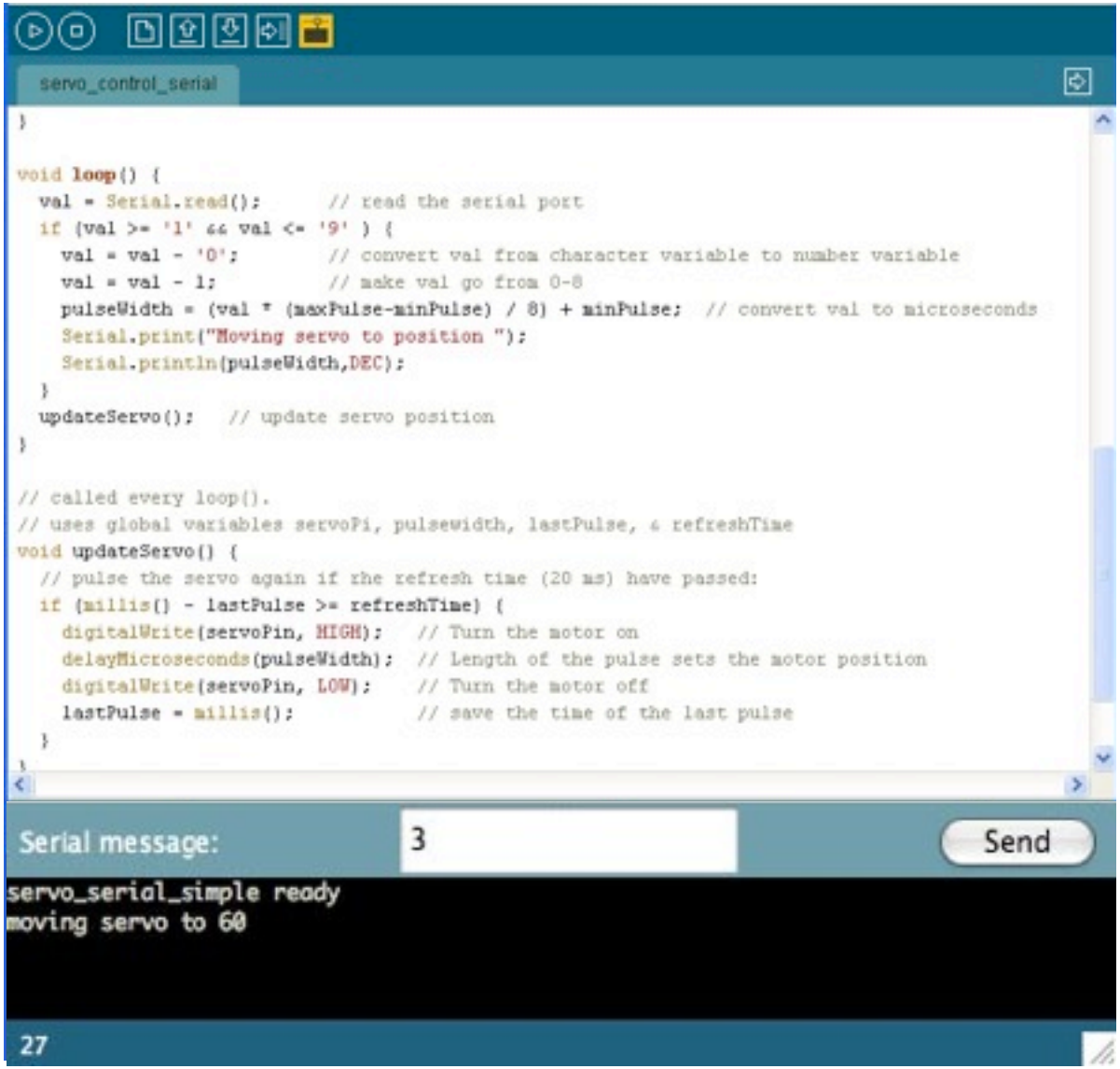

Drive the servo by pressing number keys (1 through 9, and 5 as the middle)

In Class Exercise

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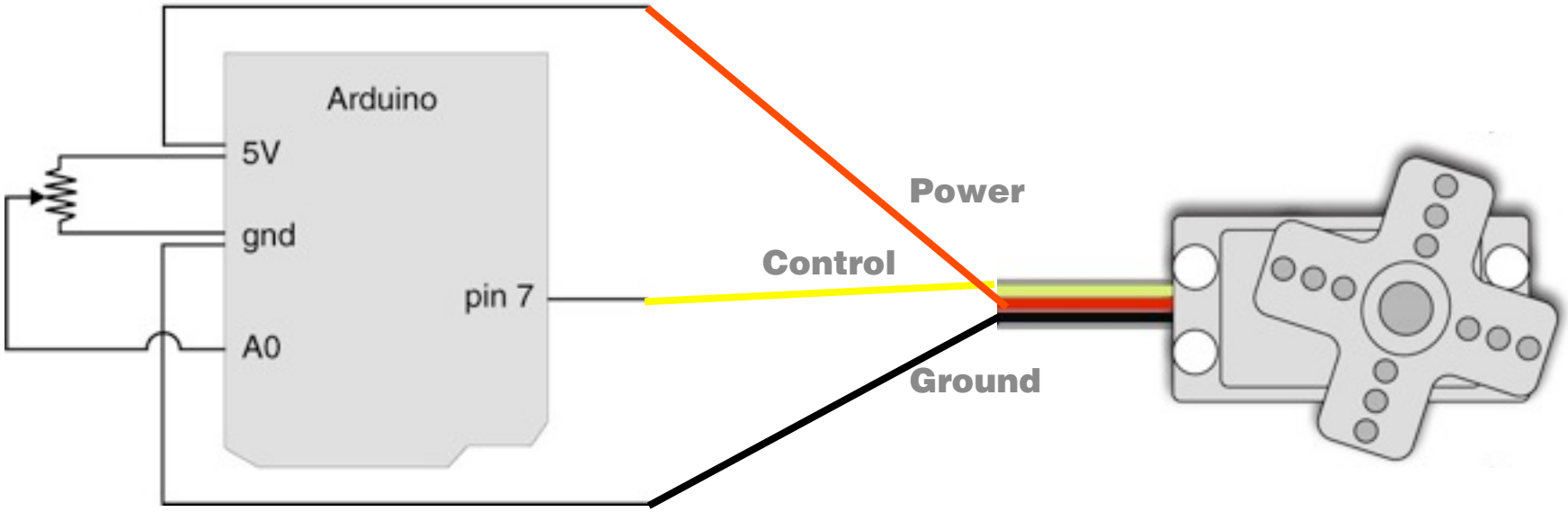
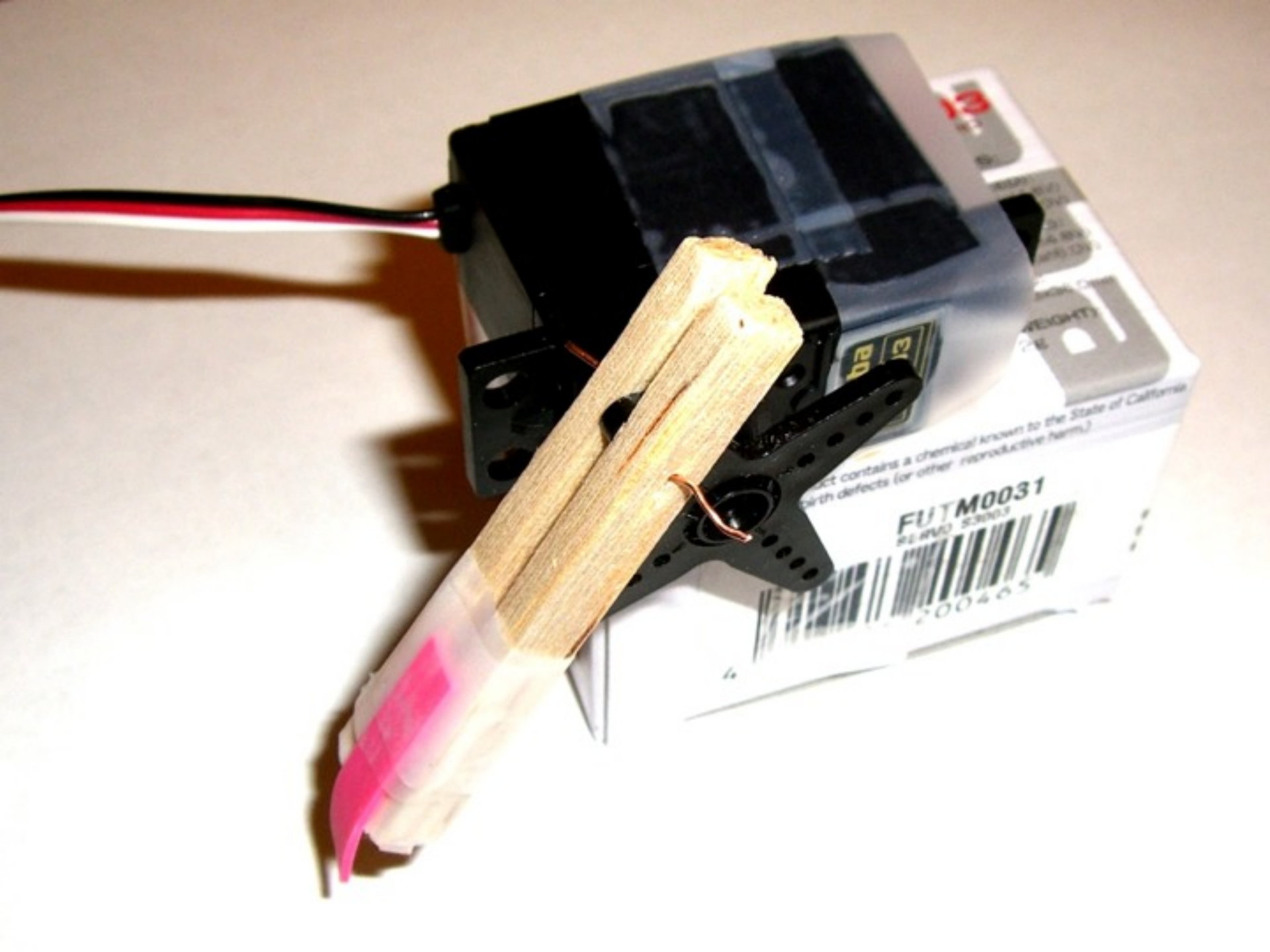
4. Make a crawler!


Arduino
5V
gnd
pin 7
A0
Power
Control
Ground

In Class Exercise

1. Connect the servo to Arduino
2. Control the servo via serial communication
3. Control the servo with a pot
4. **Make a crawler!**


FUTM0031

Assignment

Make a crawler that moves forward.

You may want to generate movement from your program, or use your potentiometer to control the speed of the movement. You may also team up with a friend and use two servos instead of one.

Post descriptions and photo(s) of your crawler on the course website.

Thanks!