Advanced Manufacturing Academy 2016

ROBOTICS – 2
Load test code

College of Engineering and Technology

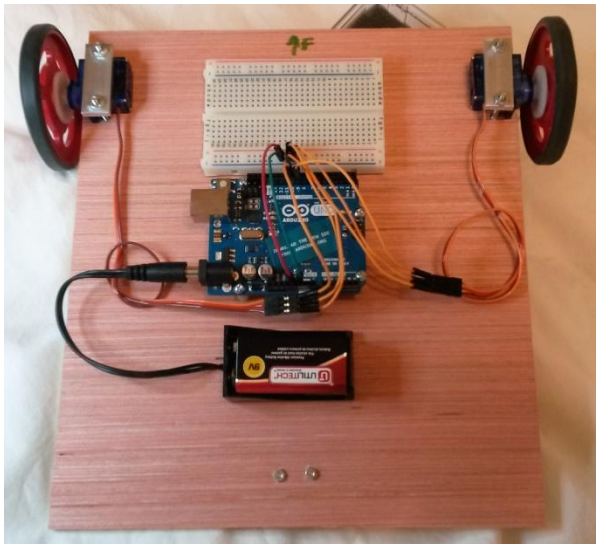
East Carolina University

Our Robot – Our Plan

- Assembly is complete!
- It isn't moving? We need code!
- First Code… Test functions – Demo
  - Go forward
  - Go backward
  - Turn right
  - Turn left
- If this doesn't happen – Make repairs

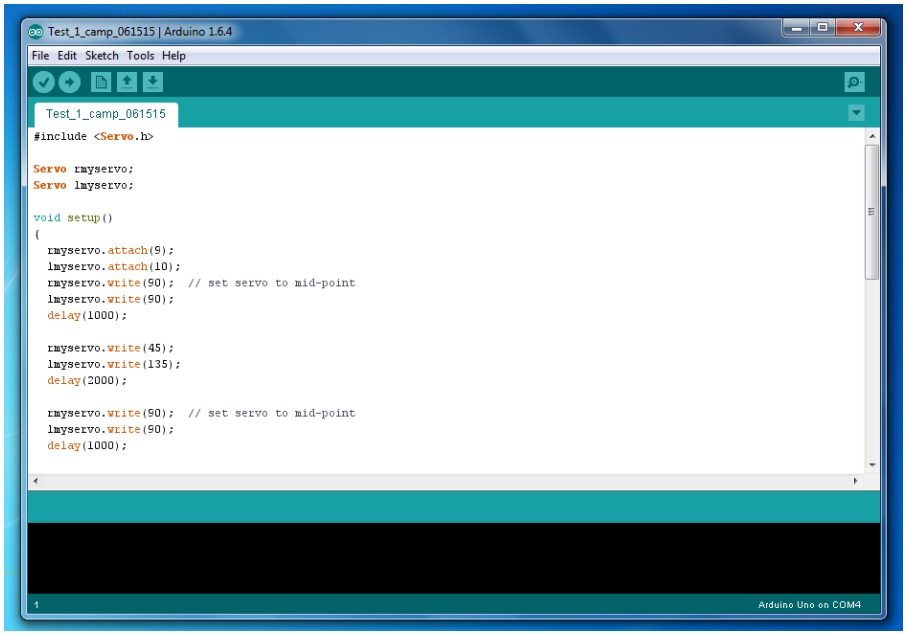
Loading Sample Code

- Load a prepared program
- You will need:
  - Robot
  - Programming cable
  - Laptop with software loaded



Loading Code – Step 1

- Steps
  - Computer up and running
  - Arduino Software started and running
  - Open sample code



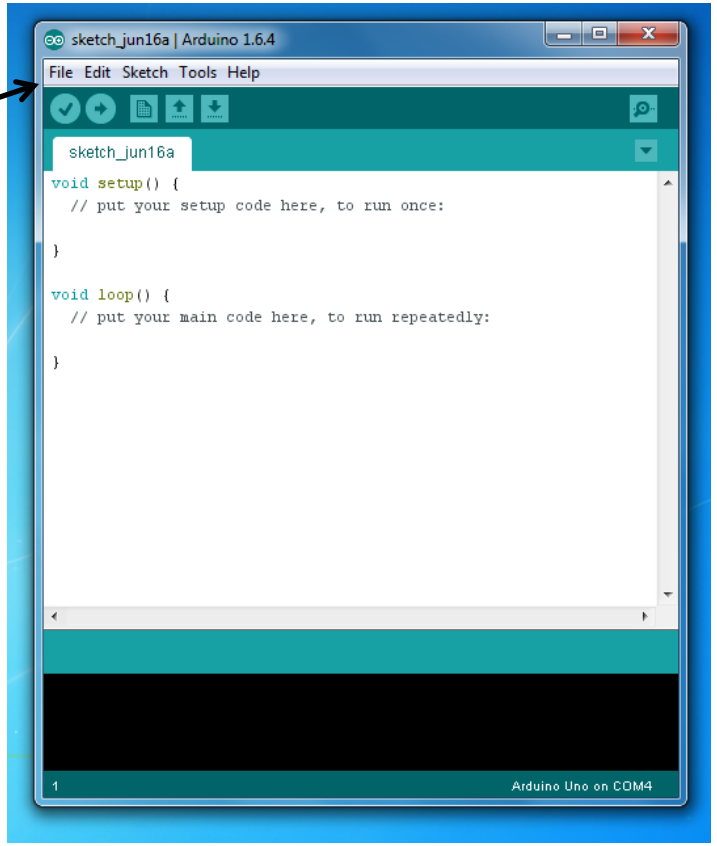
Loading Code - Software

- Find this Icon on the desktop and click..

Loading Code – Software (cont)

- Let it start up – It should look like this..

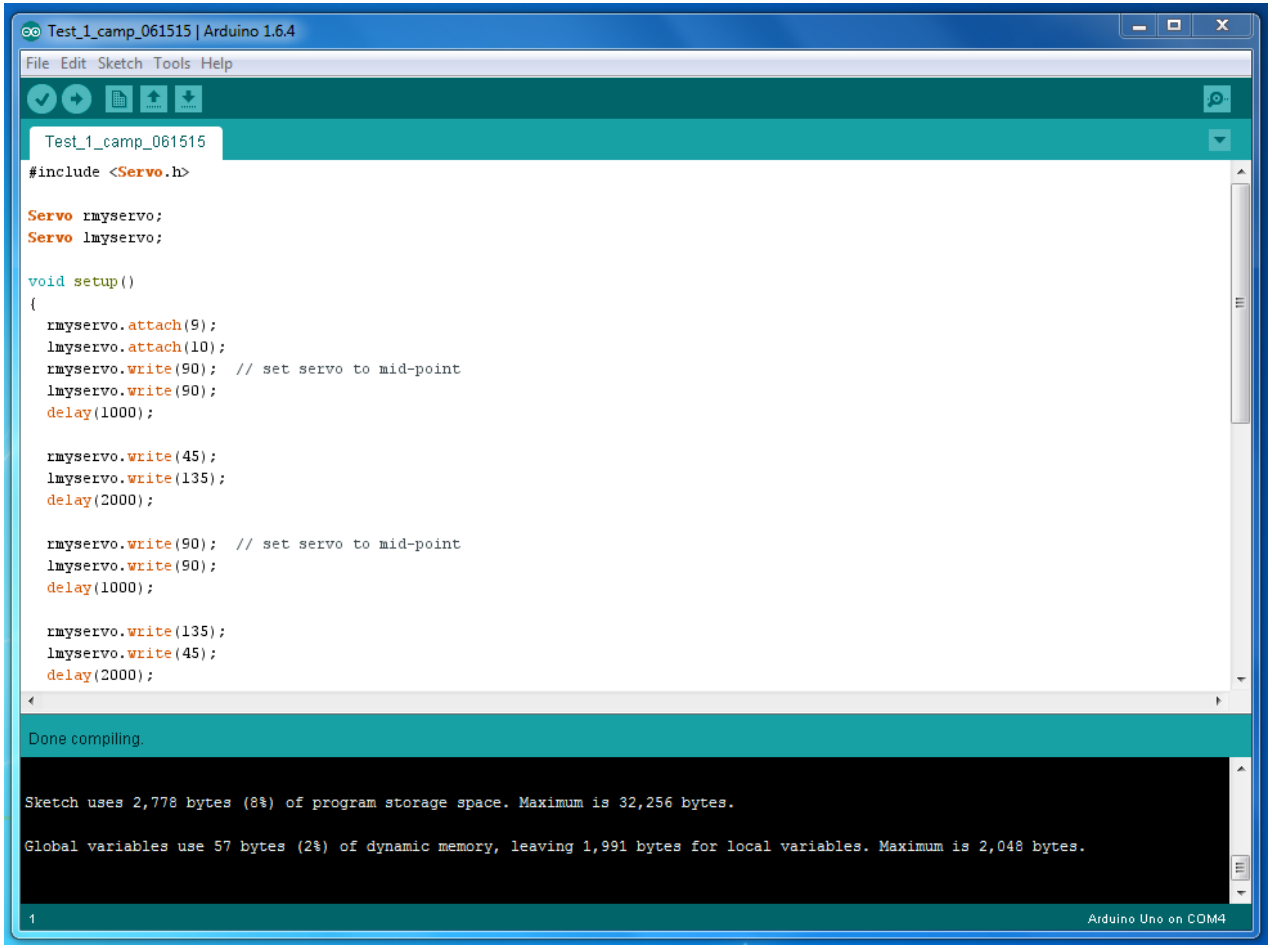
Click on “FILE”



- Click on: File, Open
  - Navigate to desktop
  - Open: Test_1_camp_062016

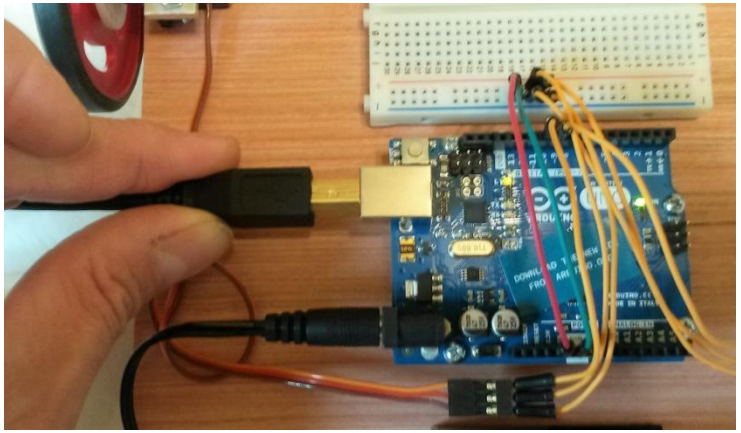
Loading Code – Software (cont)

- When file loads– It should look like this..



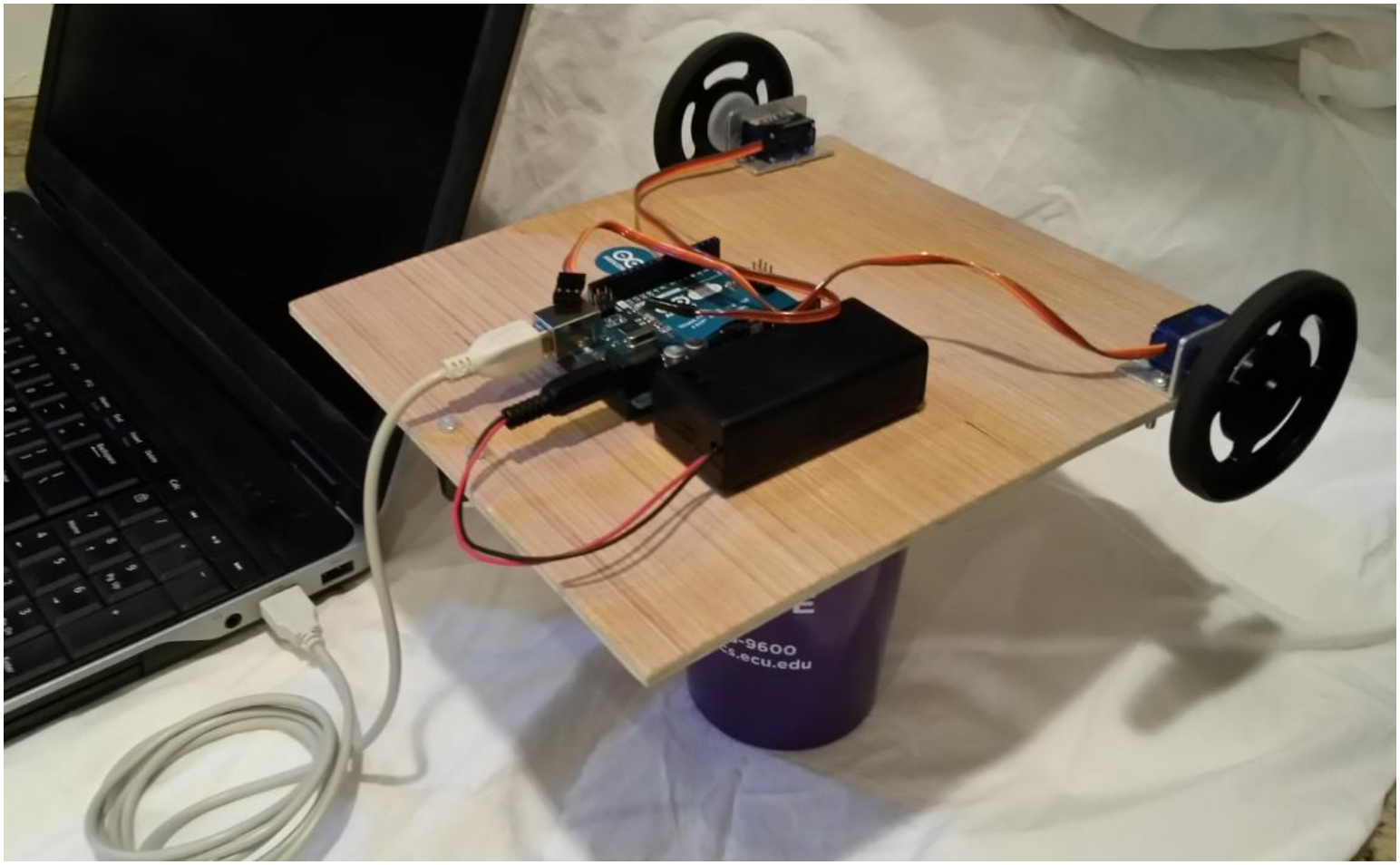
Loading Code – Step 2

- Wheels up! Fingers out!
  - Very important
  - Place the robot so it can't move
  - Keep fingers out of moving parts
- Plug the battery into the Arduino
- Plug the programming cable into the Arduino.



Loading Code – Step 2 (cont)

- Robot and computer should look like…

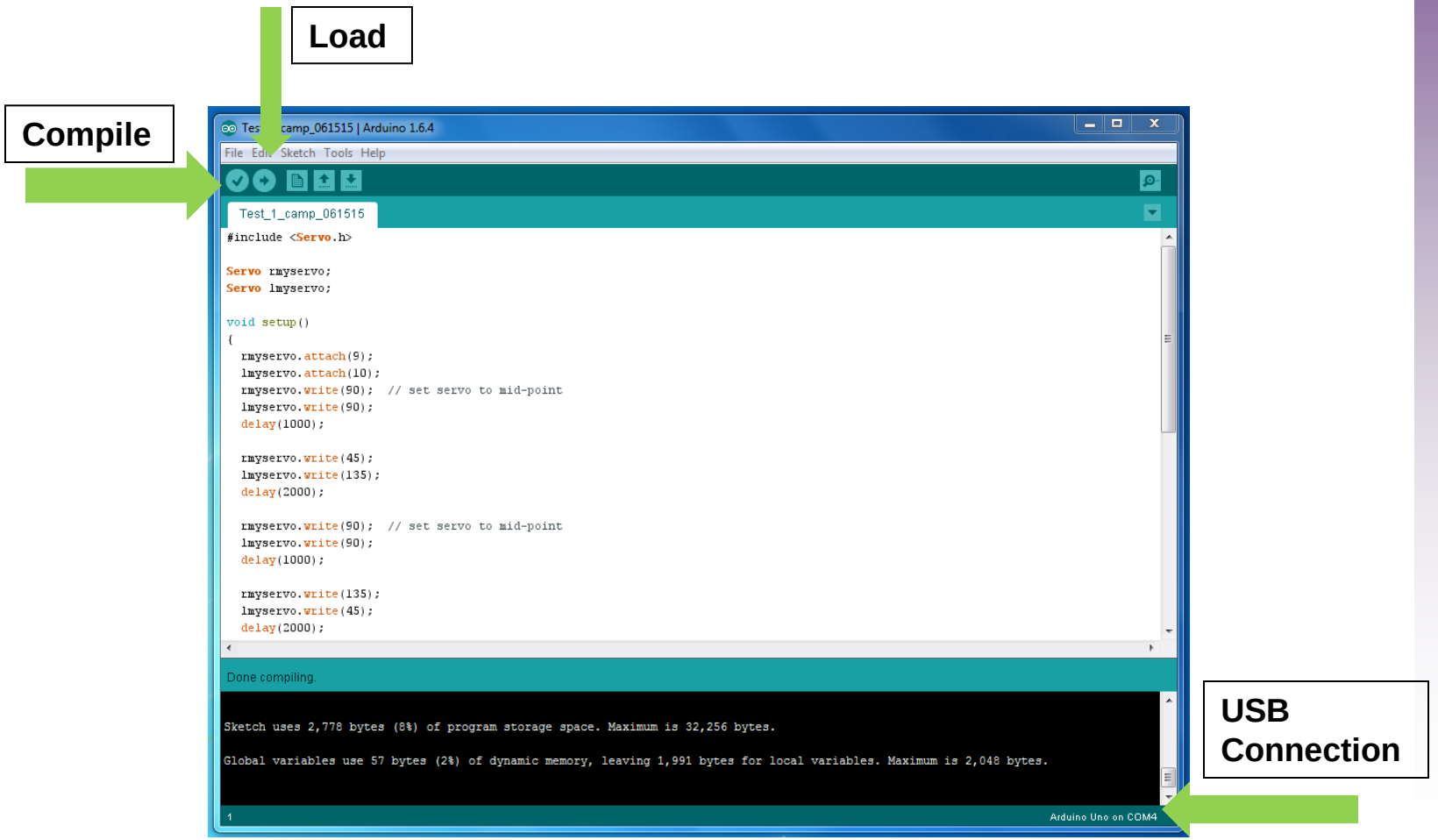


Loading Code – Step 3

- Confirm a USB connection
  - Watch Demo
- Compile/confirm code
- Down load code
  - Flashing lights
  - Robot will begin moving

Loading Code – Step 3 (cont)

- Screen should look like this….



Check Your Work!

- Code will run one cycle and stop.
- Unplug USB cable from Arduino
- Place robot on flat surface.
- Code will always run as soon as you plug in the battery. (This model)
- Code is stored on the Arduino
- Press the “Reset” button to run again.

Check Your Work (cont)

- Test Program
  - Robot will:
    - ✓ Drive forward for ~2 seconds
    - ✓ Drive backward for ~2 seconds
    - ✓ Turn right for ~2 seconds
    - ✓ Turn left for ~2 seconds
    - ✓ 1 second pause between each step
  - If this happens – All is well!
  - If not… See an instructor for assistance!

CONGRATULATIONS!

- Your robot is ready for it's next adventure!