# Lab 1 - Wed 7/18

Warm-up

* Python tutorial: <https://www.waiwaing.com/python/>
* Get acquainted with Hamster and its API. Learn about the APIs in robotAPI.txt. Methods to be used: set\_wheel(), set\_led(), set\_buzzer(), set\_musical\_note() to understand how to control Hamster using provided API.
* Understand how Hamster sensors work by using get\_proximity(), get\_floor(). Get familiar with range of sensor readings and how reading changes with distance and surface color.

Check-off 1

* Python tutorial check-off

Check-off 2

* Implement the following Hamster behaviors:
  + Moving in a square shape without using sensors
  + Using proximity sensors, implement shy, dance, and follow
  + Using floor sensors, implement line following
* Add buttons to the starter program and implement all the behaviors in one program

Optional

* Implement maze solver using side sensor attachment. Ask TAs for the attachment.

# Lab 2 - Thu 7/19

Assignment

* Implement UI for Hamster showing the sensor readings
* Implement joystick controller for Hamster

Check-off 1 - UI components

* Square representing Hamster
* Two line segments representing proximity sensor readings
* Two small rectangles on the Hamster representing floor sensor readings
  + The rectangle should be filled black if the sensor is on a black line

Check-off 2 - Joystick

* Use wasd keys as joystick to move Hamster around

Optional

* Navigate maze using UI + joystick
* Maze solver using side sensor attachment
* Grid navigation

Lab 3 - Fri 7/20