

Introduction

Integration is the last lab in EECS 16B where you combine everything you have done in previous labs to complete the S1XT33N car. The checkoff for this lab will be in the form of a final demo where your car must meet the requirements specified below to get checked off.

Grading

Integration/Final Demo is worth 10% of your lab grade (2% global credit). Like regular lab checkoffs, the final demo is all-or-nothing; if you get checked off, you will be getting full credit for the Integration lab.

Integration Checkoff: Final Demo Requirements

As you may remember, S1XT33N has 4 different drive modes, each corresponding to a word you have recorded in the classification lab. They are: drive straight far, drive straight close, turn left, and turn right. **For checkoff, we will give you a random sequence of 8 drive commands, one at a time, for you to demonstrate using voice classification. Each drive mode will be tested twice to make sure each of your words classifies correctly at least two times.**

In the demo, you will need to demonstrate successful implementations of controls and turning. Classifications should also be accurate. You are allowed to pick up your car in-between commands to reposition and prevent it from hitting a wall. **Staff may ask you to retune your turning and straight correction code if they fail the meet the specs below.**

Controls	Car goes fairly straight for straight far and straight close drive modes. The definition of straight is the same as how we defined it in Lab 7: Controls.
Turning	Car turns roughly 90 degrees for turn left and turn right drive modes.
Classification	Commands classify correctly most of the time. See the Classifications section below for more details of what is expected.

Classification Requirements

- Each of the 4 voice commands must classify correctly at least 2 times each.**
- Each of the 4 voice commands must classify correctly at least 1 time more than it misclassifies.** For example, if you have 1 misclassification for a given command, you need that voice command to classify correctly 2 times to count as a correct classification; if you have 2 misclassification, you need 3 correct classifications, and so forth.
- Non-classifications, where the car does not move, either because `EUCLIDEAN_THRESHOLD` or `LOUDNESS_THRESHOLD` is not satisfied, do not count as misclassifications. **Tuning your thresholds may be helpful to reduce misclassifications.**
- Once 4 classification errors are reached, you will need to improve the classification rates and submit another checkoff request when you are ready.

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