Questions?

- Round 1 Presentation Scores and Teamwork Contribution Scores
  - 30+ students in danger of receiving 0 points for Presentation
  - 30+ students in danger of receiving 0 points for Teamwork
  - Must enter via the ECE 100 website by 5 PM on Mon, Oct 22

- Sample Round 2 Specifications posted

- Need to strengthen the technical information in your lab reports
  - Diagrams
  - Flowcharts
  - Tables

- Pre-registration/Advising
  - www.ece.iit.edu/~advising
  - Sign up for advising appointment via Genbook
  - my.iit.edu - Academics - DegreeWorks
## Round 1 Runoff Teams

<table>
<thead>
<tr>
<th>Team</th>
<th>Members</th>
<th>Section</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Estrada, Ruben Hummel, Alexander Schnepper, Cory</td>
<td>01</td>
<td>40s, 23s</td>
</tr>
<tr>
<td>2</td>
<td>Labovic, Nikoleta Mahajan, Karan</td>
<td>02</td>
<td>16s, 15s</td>
</tr>
<tr>
<td>3</td>
<td>Park, Durand S. Sniezek, Konrad Unverzagt, Robert M.</td>
<td>04</td>
<td>57s, 38s</td>
</tr>
<tr>
<td>4</td>
<td>Pergrossi, Gregory M. Syed, Saaduzzaman Wang, Hongyang</td>
<td>04</td>
<td>45s, 25s</td>
</tr>
</tbody>
</table>

## Round 1 Runoff Results

<table>
<thead>
<tr>
<th>Team</th>
<th>Strategy</th>
<th>History</th>
<th>Pred</th>
<th>Tr1</th>
<th>Tr2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Single light sensor, 40:40(Right) and 24:40(Left), 65% Using Right hand rule</td>
<td>40s, 23s</td>
<td>5</td>
<td>27.2s</td>
<td>56.9</td>
</tr>
<tr>
<td>2</td>
<td>Not using Normalize L:on/R:off, 24:24, 100%</td>
<td>16s, 15s</td>
<td>35</td>
<td>17.3s</td>
<td>17.4s</td>
</tr>
<tr>
<td>3</td>
<td>Single light sensor on the right side 8:40(left) 24:40 (right), 100% motor</td>
<td>57s, 38s</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Right edge follower, 24:24, Front wheel drive,</td>
<td>45s, 25s</td>
<td>8</td>
<td>11/15</td>
<td>4/15</td>
</tr>
</tbody>
</table>
Round 2

- Sample specifications are posted on the ECE 100 web site
- Mint Shuffle: two robot game of puck pushing
- Lab this week: Introduction to Mint Shuffle
  - Need two alternative solutions (first flowcharts, then code) for following a tape path (e.g., both sensors on, both sensors off).
  - Slightly modified “tape path following” code should be able to push a single puck into scoring position.
- Lab next week: Performance Tuning
  - Need two alternative solutions (first flowcharts, then code) for pushing at least two pucks into scoring position.
  - Modified “tape path following” code (with simple state machine) should be able to push at least two pucks into scoring position.
- See Proposal and Milestone Grading Guides online

State Machine

- What states (or stages) does your robot need to go through?
  - Find tape
  - Follow tape (push puck)
  - Find goal (score puck)
  - Re-orient for next tape, and repeat
- How are these states connected?
  - Can you jump from any state to any other state?
Converting “Solution into Code” - State Machine

Tape Path Following: both light sensors seek light, i.e., they try to stay on the tape path

Example Flowchart

Tape Path Following: both light sensors seek light, i.e., they try to stay on the tape path
State Machine Implementation

integer INIT=0, FIND1=1, FOLLOW1=2, GOAL1=3, FIND2=4, FOLLOW2=5, GOAL2=6;
integer state=0;

start_press();
while (timer() < MAXTIME) {
    if (state==INIT) {
        // initialize robot: calibrate, orient, etc.
        forward();
        state=FIND1;
    } else if (state==FIND1) {
        // test for tape
        if (analog(LEYE) < LTHR && analog(REYE) < RTHR) {
            state=FOLLOW1;
        }
    } else if (state==FOLLOW1) {
        ...
    }
}