CS 3630 Lab 3 Grading Rubric

Total Points	Description
30 points	The robot uses `drive_wheels` to continuously adjust its distance and angle to the ball.
25 points	Runs 1-3, the robot tracks a moving ball and is able to catch up to a slowly moving ball. *See description below.*
10 points	The robot searches in the correct direction when a rolling ball passes out of view.
35 points	The behavior implementation utilizes a finite state machine consisting of at least 3 states (15 points). The FSM state is displayed on the robot or laptop screen (10 points). State transitions are indicated with both a print statement at the terminal and an audible sound from the laptop or robot. Points will be deducted if the robot frequently oscillates between states or gets stuck looping between states without making progress.

Ball tracking:
The task of pursuing a moving target will be evaluated as follows to ensure consistency across graders. Each TA will use a high-precision instrument, referred to scientifically as "ball on a stick," to move the ball at fixed intervals across the arena. We will conduct 3 trial runs as follows (see attached printable arrows and video of Run 1 for further clarification):

- Run1 (slow, track and touch) – Start with the ball at one corner of the arena and the robot at the opposite center line (if this were a soccer field). Move the ball along the **first row of arrows** at **1.5 second** intervals. 5 points for tracking the ball past the first dotted line. 5 points for the robot touching the ball before it goes past the second dotted line.

- Run2 (medium, track and touch) - Start with the ball at one corner of the arena and the robot at the opposite center line (if this were a soccer field). Move the ball along the **second row of arrows** at **1.5 second** intervals. 5 points for tracking the ball past the first dotted line. 5 points for the robot touching the ball before it goes past the second dotted line.

- Run3 (fast, track only) - Start with the ball at one corner of the arena and the robot at the opposite center line (if this were a soccer field). Move the ball along the **third row of arrows** at **1.0 second** intervals continuing around half of the arena (beyond the printed paper). 5 points for tracking the ball over the entire trajectory. The robot can touch the ball, but it is not required.