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Intro to Robotics
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Lab 2 Report

1. During the delay(100) Sparki pauses in between reading the sensors.
2. If each call to the loop() takes longer than 100ms, Sparki will read its sensors every second and adjust accordingly. Sparki will read its sensors, adjust its direction, and move in that direction. With a small delay, Sparki will go into the loop more often. However with a larger delay, Sparki will go into the loop less often; so if the delay is 1000 (1 second) it will check its sensors every second, adjust its direction and move that way and then check its sensors again a second later, when it is way off course.
3. Sparki's average speed when covering the 30cm distance is 0.0278 m/s.
4. In an ideal world, Sparki's pose should show (0,0,0) each time it crosses the starting line.
5. After tweaking the code to include error mitigation, after each lap Sparki shows 0 for all of the poses.
6. For a loop closure, to prevent the odometry error from growing each loop, we used the 'start' position as a known landmark to reset Sparki's poses. When Sparki crosses the start line, the x, y and theta pose are reset to 0.
7. The names of everyone in the group is, Sherry Nguyen, Jason Evarts, and Madelaine Struwe.
8. We spent about 2 hours on the programming for this lab.