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Report: Tunnel Escape Contest

In previous runs through the tunnel before the contest, our robot successfully made it through. When we began the competition, our robot ended up running into the wall at a corner. We did not successfully complete the competition. We then tried again afterwards. After the robot was reset back into the tunnel, it got to the line of RFID cards and successfully detected the card and turned around and was able to successfully navigate back through the maze.

Shortly before the competition we moved the sonic sensors to point at an angle to the sides, whereas before, we had the sensors pointing directly frontwards. This could have been part of the problem where we did not make any cases for when a box is perpendicular to the robot.

The RFID detection was done well. The wall avoidance was done well in practice, except for some very specific cases where the robot is put into a strange position. So it was not complete. The robot's construction was done well as well because it successfully detected the walls when they were near.

The robot should have tracked the walls from further away and tried to stay in the middle of the tunnel instead of continuing forward until it was almost upon a wall and then avoid the wall.

Below is an example picture of our robot now, note how the sonic sensors were set up, this is the same as they were in the last lab.