

Object Sorter

COSI 119: Autonomous Robotics

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Project Objective

The aim of this project is to program a robot to sort and store cans in a designated area according to their color.

3 States of the Main Control:

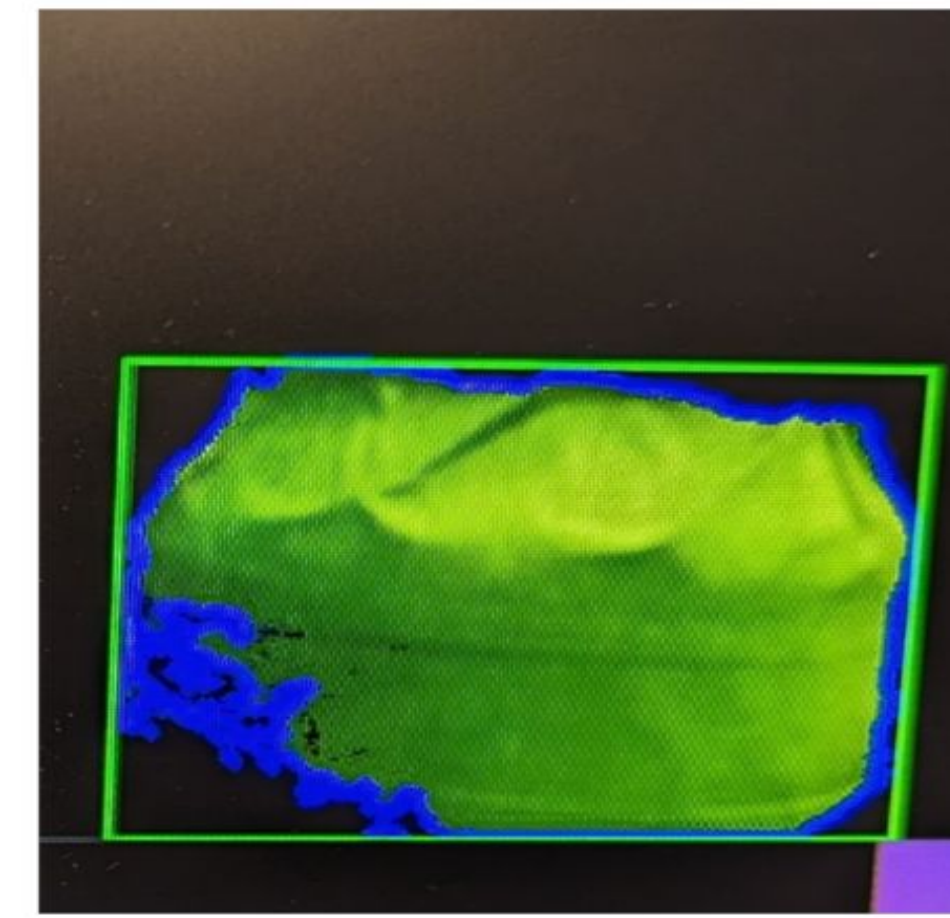
- 1 | State: Find Item
- 2 | State: Deliver Item
- 3 | State: Return to Start



State: Find Item

State: Deliver Item

State: Return to Start



The robot isolates the color it is trying to sort.

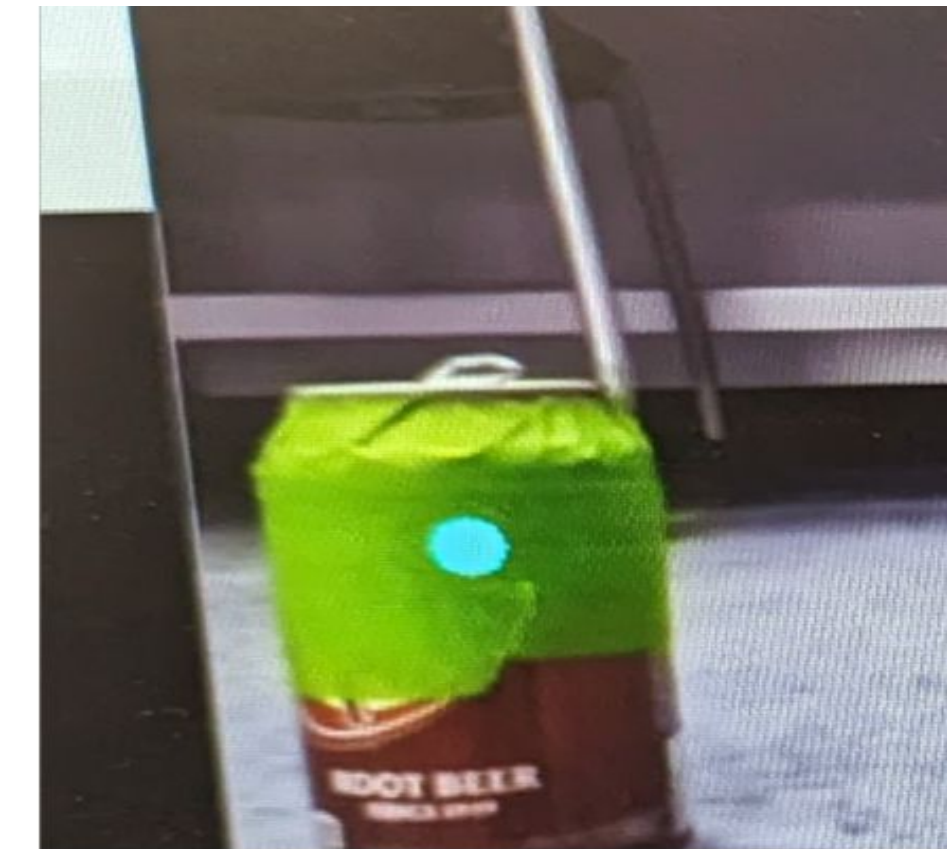
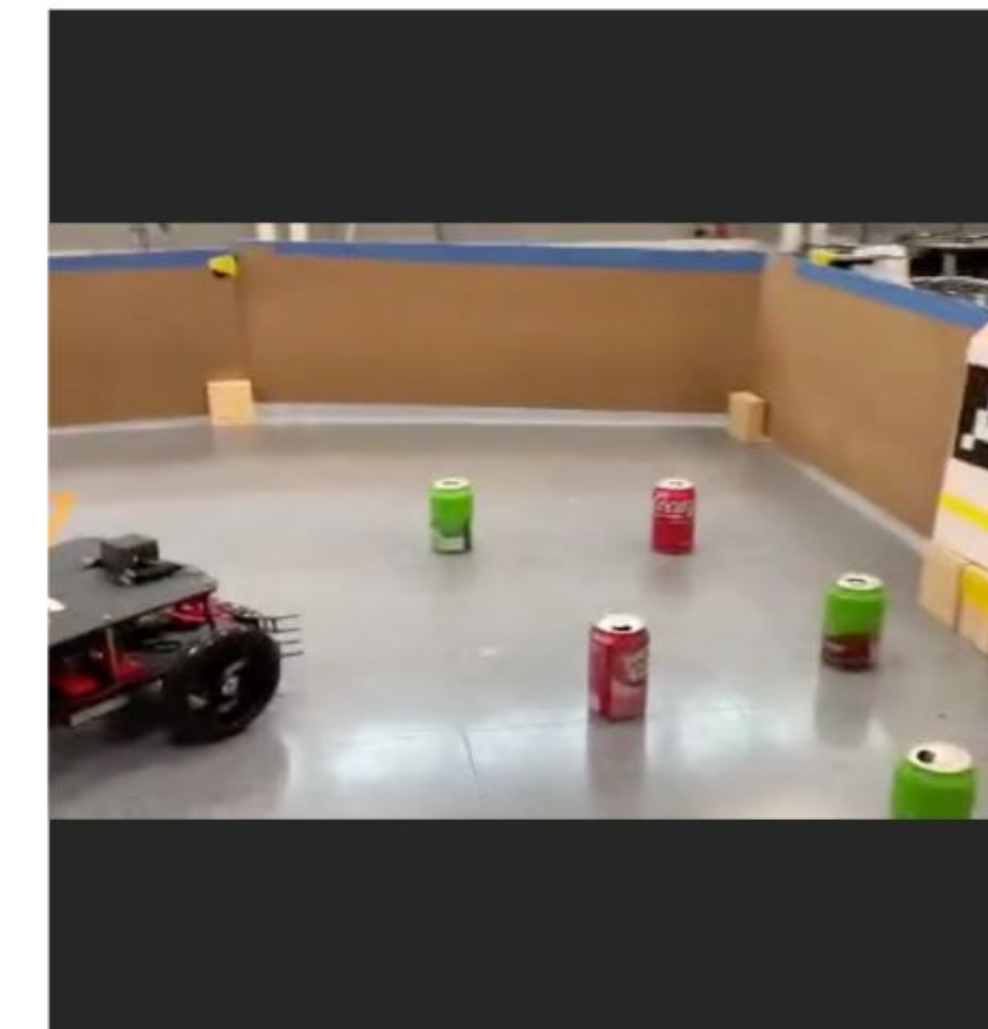


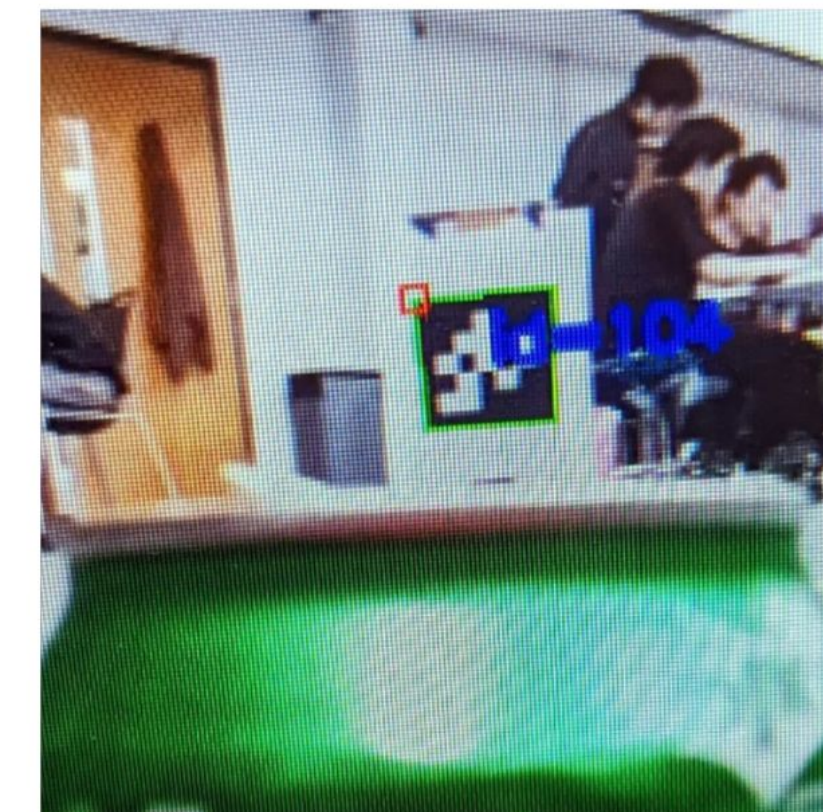
Image recognition can locate a can's centroid (blue dot) to use as a robot target.



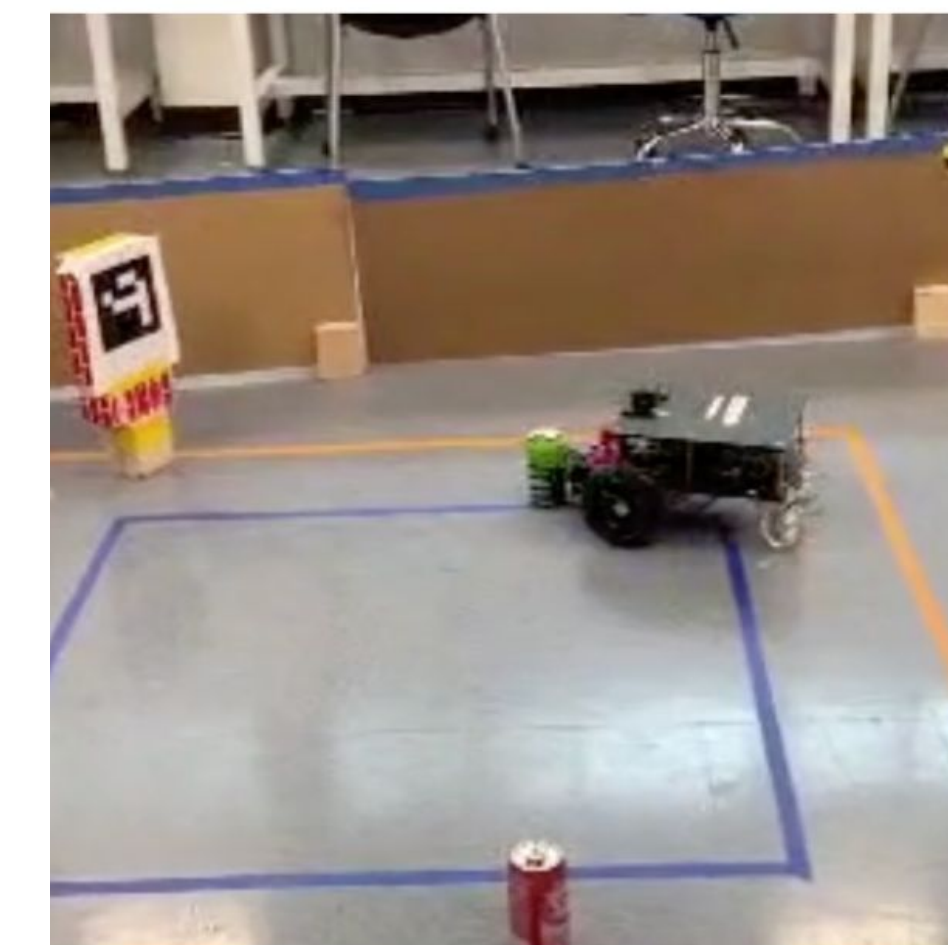
Robot going to item



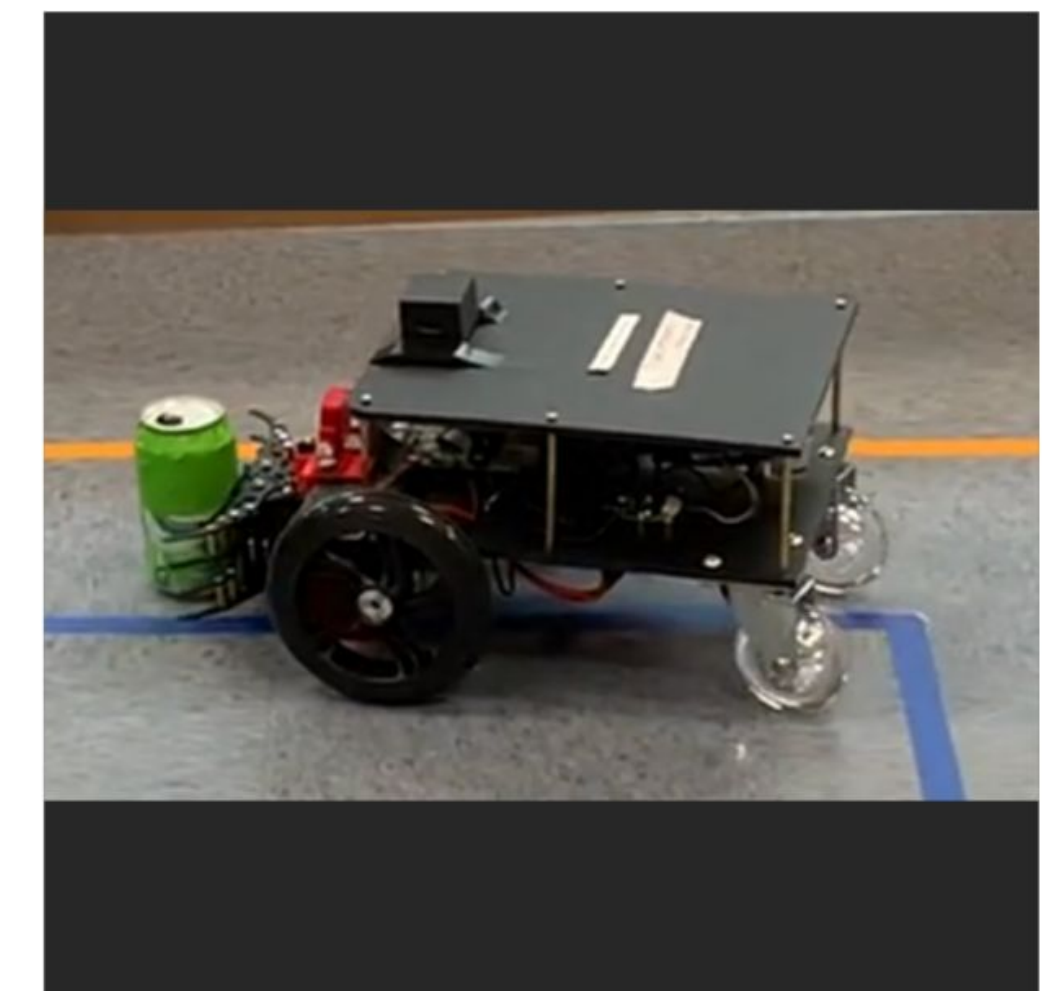
Robot closing claw on can



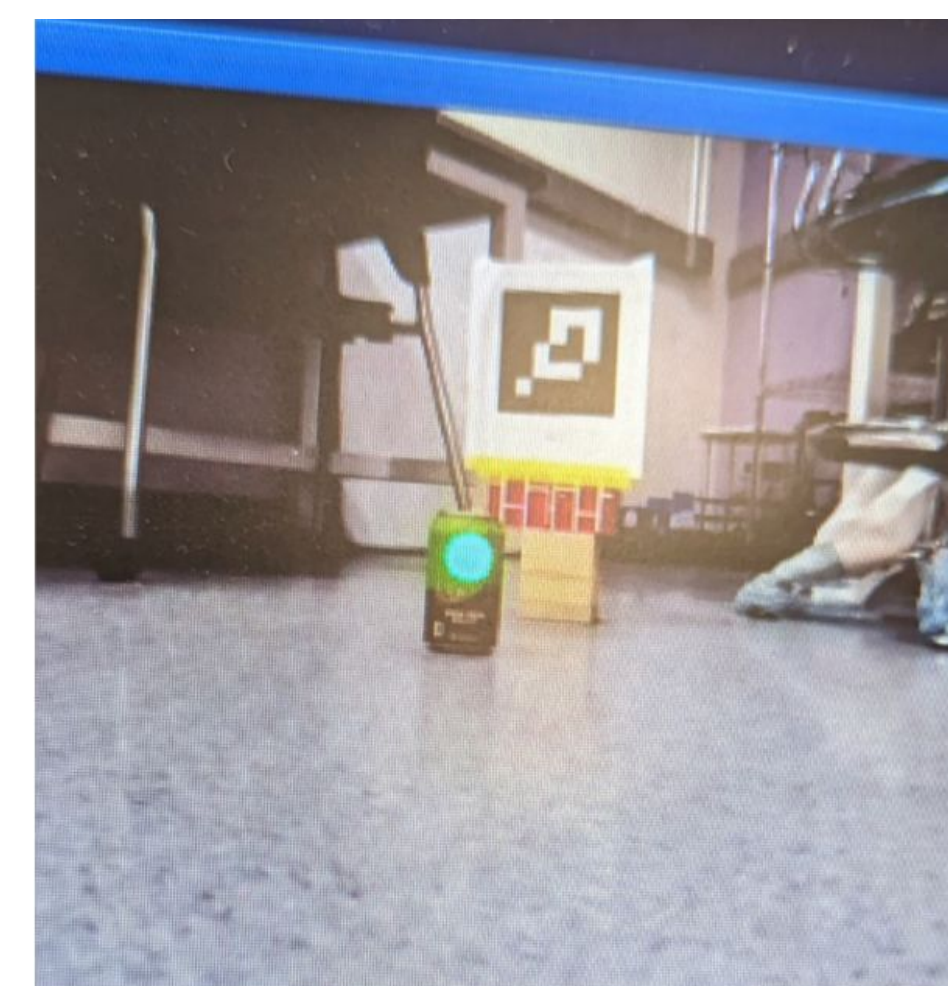
Robot with the can will find the correct fiducial based on color to drop off



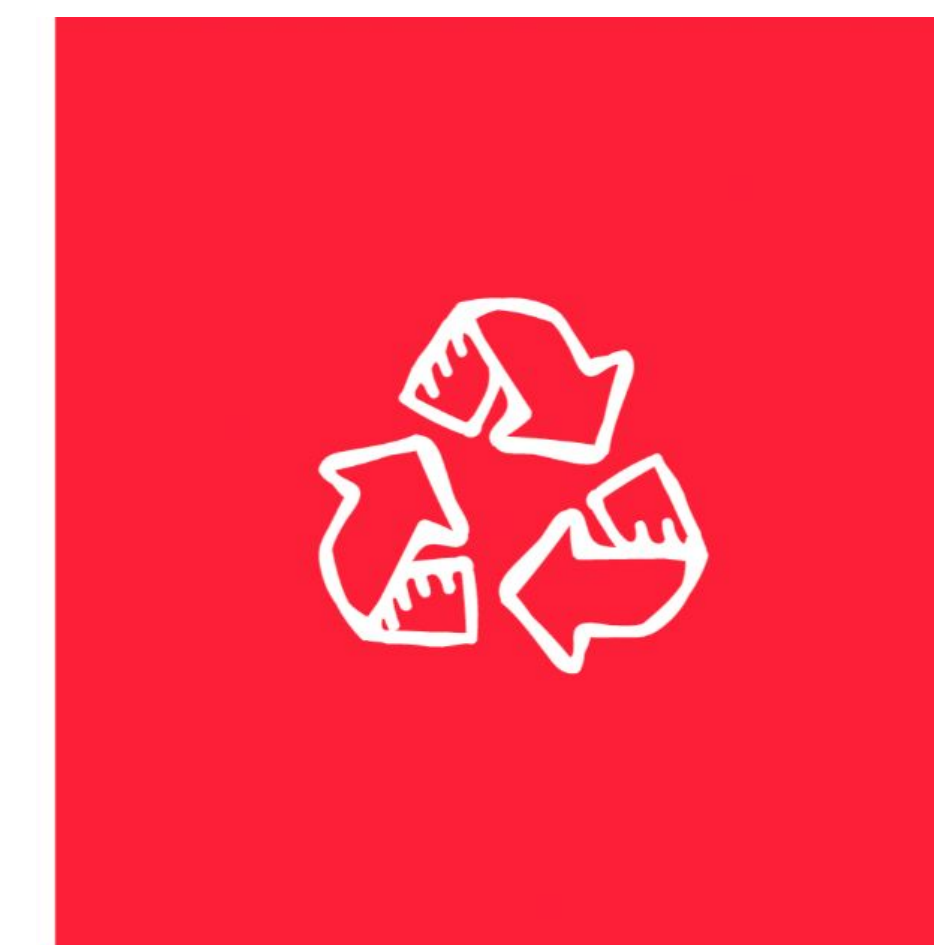
The robot moves towards the fiducial



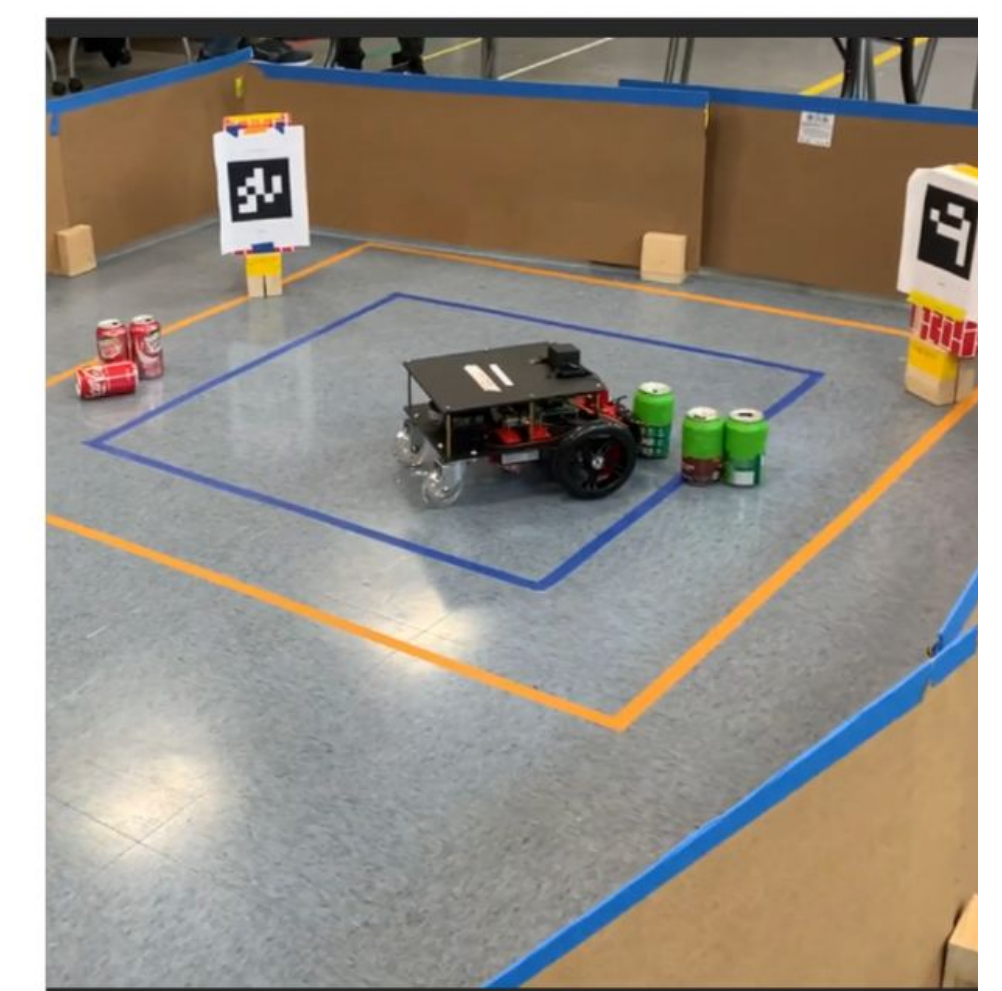
Robot opening claw to let go of can



Robot finds fiducial for unarranged cans.



If more cans to sort:
Reset to state: 'Find Item'



If all cans sorted:
Shut off