

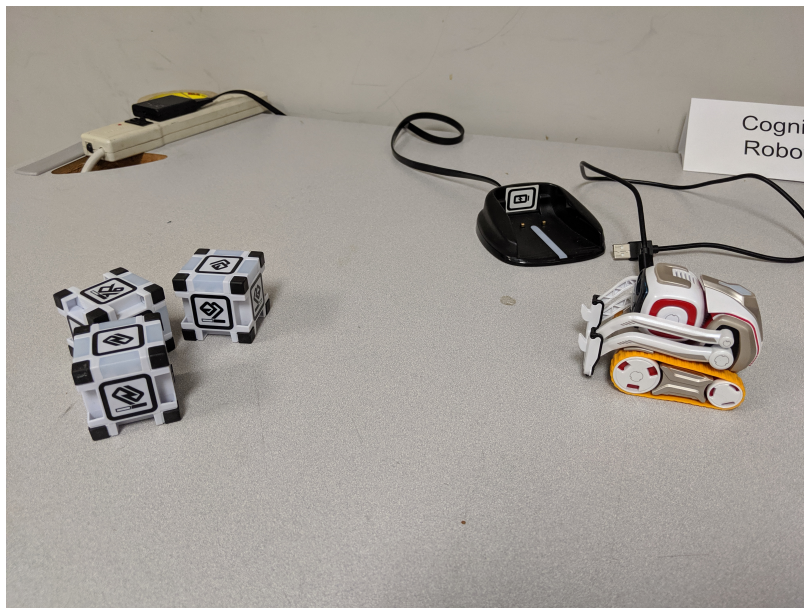
# 15-494 Lab 5 Homework

JD Parker

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## 1 Problem 1

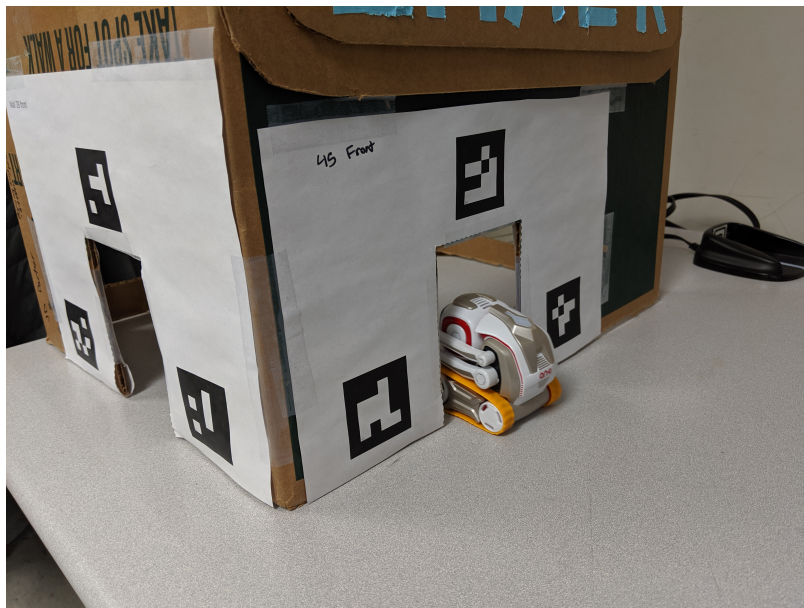
When the cubes are arranged such that they are around (300, 50) and block the path planner, a goal collides error is thrown and the cozmo says "I can not go there"



## 2 Problem 2

### 2.1 Adjacent Doorway to the right

Cozmo starts by turning in a circle and looking for a wall. Once it finds a wall it runs door pass and goes through the doorway.

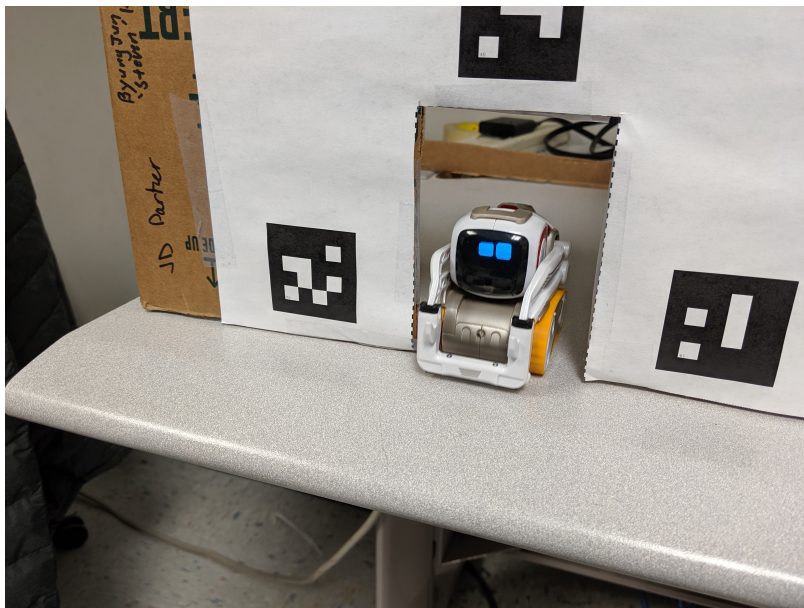


Once it passes through the doorway, it drives forward a bit and turns to the left 90 degrees. Then cozmo turns a bit to the right, a bit to the left, and looks up a bit in order to thoroughly check whether there is a doorway in front of it.





If the cozmo sees a doorway it will drive through it.



## 2.2 Adjacent Doorway to the left

Cozmo starts by turning in a circle and looking for a wall. Once it finds a wall it runs door pass and goes through the doorway.



Once it passes through the doorway, it drives forward a bit and turns to the left 90 degrees. Then cozmo turns a bit to the right, a bit to the left, and looks up a bit in order to thoroughly check whether there is a doorway in front of it.





If there is no doorway, it will turn 180 degrees and backup. Then cozmo turns a bit to the right, a bit to the left, and looks up a bit in order to thoroughly check whether there is a doorway in front of it.



If the cozmo sees a doorway it will drive through it.





This fsm allows cozmo to look for an initial doorway, drive through it, check whether the door is to the left or to the right, and finally drive through the door adjacent to the initial door.