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The George W. Woodruff  
School of Mechanical Engineering

**Georgia**  
**Tech** College of  
Computing

# LabVIEW Part 4: TE Competition

November 4, 2008

[www.robojackets.org](http://www.robojackets.org)



# TE Final Competition

- This Saturday at 10am in the MARC (Bldg No. 129)
  - 813 Ferst Drive NW
- Rules are on the wiki
- Objective is to move cups out of an arena
- Moving special blue cups scores bonus points
- We will cover strategies today



# Robot

- You will be given a light sensor
  - Use it to detect the boundary of arena
- Also have sonar for detecting cups
- You should build the diff drive basic robot with one change
- There are better designs though



# Strategy One: Detect Lines

- Use light sensor to find boundary by examining its value
- If its low then we have a line
- Try turning on the light for the sensor
- Once a line is found implement an avoid behavior
  - Back up and turn around



# Strategy Two: Detect Cups

- Periodically read sonar. Valid values imply object is near
- Once you find an object go towards it
- Search for objects by moving around
- Be sure to lock-on to cups once found

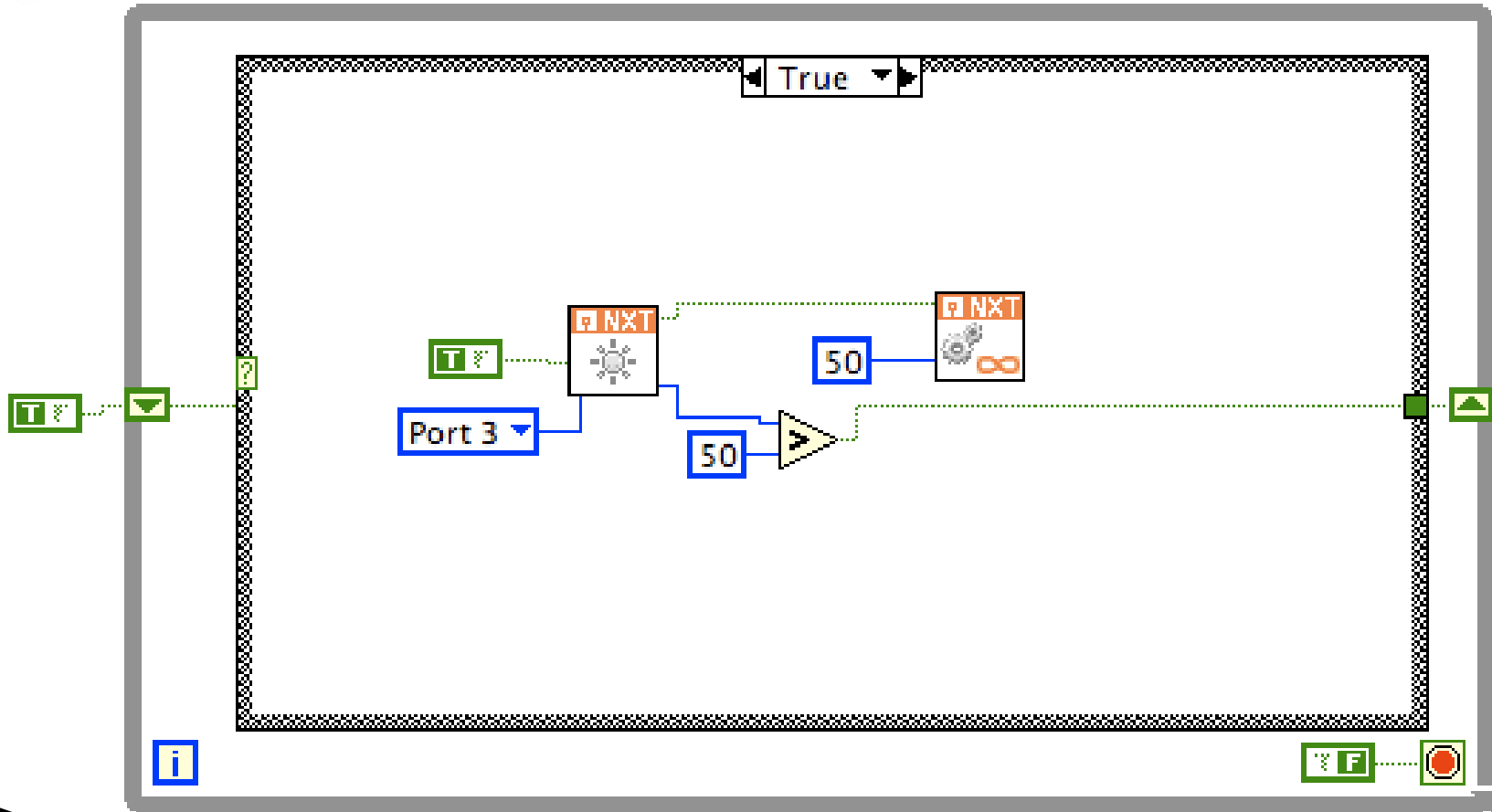


# Strategy Three: Finding the Blue Cup

- Use light sensor again to inspect light value of cup
- The close to white implies its likely blue
- Now use a smart algorithm to move towards green zone
- Will have to use odometry



# Drive Inside Line





# Drive Inside Line

