Line Following: Slalom Challenge
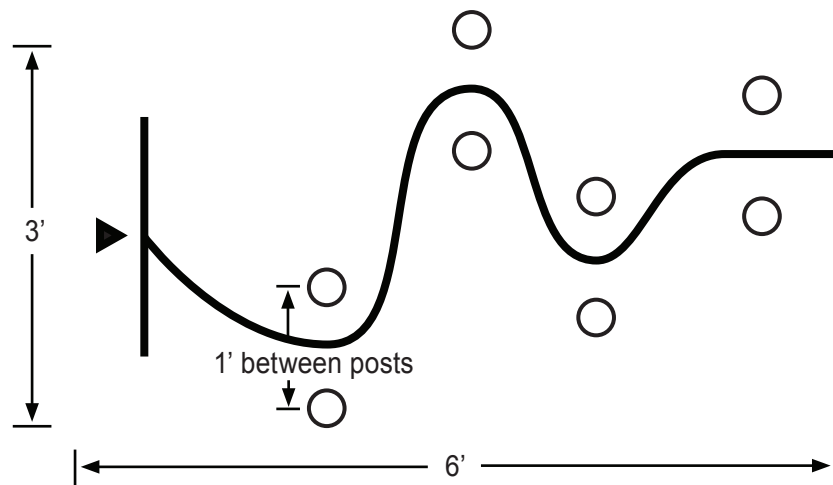
Line Following Challenge
In this challenge, your robot must reach the end of the slalom course as quickly as possible, without knocking over any of the posts along the route.

Rules and Procedure

1. Build the board below.
   - The line marking the course should be dark tape on a light-colored surface, though you can use light tape on a dark surface if needed.
   - Posts should be 1" PVC or paper towel tubes.
   - You can modify the shape of the curves to make them sharper or more gradual.
   - The curves do not need to be the same. Some can be sharper than others. There can be straight areas between gates or not. Be creative!
2. Use a stopwatch to time your robot's run from the time the Run button is pressed, to the time it crosses the finish line.
   - Knocking over any gatepost incurs a 3-second penalty per post.
   - Missing a gate (not going between the posts) incurs a 10-second penalty per gate.
3. Complete the course in under 15 seconds (including penalties) to beat the challenge!

Hints

- You can run different optimized line tracking behaviors one after another to go fast or turn sharply when needed.
- How might you limit them so each one stops at the correct time?

3'

1' between posts

6'

Note: Diagrams are not drawn to scale