Lab 1: Implementing the Wall Follower (30 points)

Starting from one corner of a sequence of **wooden blocks** (a.k.a. "**wall**") as shown in **Figure 1**, your **robot** must follow the wall for **1½ laps**. The **wall** could consist of gaps as well as concave and convex corners.

If the **robot** successfully follows the **wall** using the **requested controllers** without touching the **wall** or deviating from its path at any point during the demo, you are awarded the following points:

1. **Bang-bang controller (15 points)**
2. **P-type controller (15 points)**

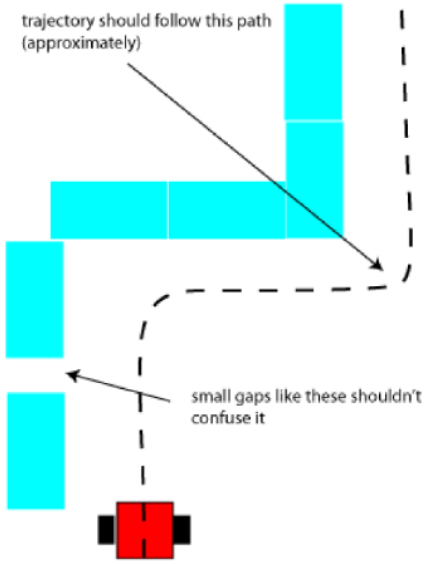

Figure 1. Robot path for the wall follower

Frequently Asked Questions (FAQ)

1. **Are partial points awarded in this lab demo?**
   No partial points are awarded. Possible demo points: {0, 15, 30}.

2. **Does my robot have to follow the wall in an anti-clockwise direction (like Figure 1)?**
   No, it may follow any direction as long as it remains consistent throughout the demo.

3. **Are reverse wheel rotations allowed?**
   Yes, you may reverse your robot at any point in the demo.

4. **Is there a time limit on the demo?**
   No, but your TA can conclude your demo if your robot is moving extremely slow.

5. **Will the wall setup look exactly like Figure 1?**
   No, it could be different. However, all setups will include at least one gap, one convex corner and one concave corner.

6. **Why does the EV3 brick keep crashing after running our code?**
   Common problem include: (1) no sensors or motors connected, (2) motors and sensor ports do not match the ones used in your code, (3) project is not an leJOS EV3 project.