In this lab, you will modify the **roomba.cpp** program which was distributed in the last lab (II.2).

1. Using a `switch` statement

   Modify **roomba.cpp** to use a `switch` statement inside the `while` loop, in place of the `if/else` statements (i.e., the ones that start: `if ( c=='F' )...`)

2. Being random

   Instead of initializing the robot to location $(0, 0)$, use a random number generator to start the robot in a random location.

   Make sure that you use the modulo operator (%) to clamp the output of the random number generator to a value between 0 and 10 (to keep your robot inside its 11×11 room)

3. Using a `for` loop

   Replace the `while` loop with a `for` loop that only lets the user enter 5 commands, and then exits.

4. *Challenge #1:*

   The `for` loop modification, above, produces a program that is not very user friendly. What if the user wants to enter fewer than 5 commands? Think about a way to allow the user to quit before entering 5 commands if s/he wants.

5. *Challenge #2:*

   Instead of asking the user to enter a command (F, B, L or R), use the random number generator to pick a random command for the robot to execute.

   Hint: pick a value between 0 and 3, and associate each number with a command, e.g., $0 \Rightarrow$F, $1 \Rightarrow$B, etc.

   Another Hint: decide when you want the robot to stop— either execute a fixed number of commands or a random number of commands; ...or stop when the robot lands in a particular location.