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Lab 4 Report

1. The second implementation is significantly more efficient. The first implementation has a one test case to determine in which of the two states the robot is. The robot is changing the state constantly because it’s either too far or two close which makes its path look like a zigzag. On the other hand the second implementation is faster than the first one in terms of the time needed to follow a wall along the same distance. The path of the robot with three cases is mostly straight and turns only when necessary.
2. The second program does a better job following the job since it’s more efficient in terms of the time due to the fact that it’s only makes a turn when necessary.
3. The robot is able to travel approximately ten feet.
4. When the robot encounters an open door along its path, the sensor doesn’t detect anything on the side and the robot’s state changes to “too far from the wall” which makes it turn to the right in search of the wall to follow it again.
5. The robot turns slightly to the right to stay within specified range since it detects the door as a wall.