Description

The interface for this assignment was designed and modified to check the infrared sensor, this helps to locate the docking station. The wall following behavior from the previous assignment was then edited to check for the docking station and drive the robot into it. Once the infrared sensors were activated the Roomba would turn slightly. The direction of the rotation depends on the characters each sensor would return. Lastly, the robot will detect if it is has successfully been docked. Successful docking will result in a short song being played. At first, we were using too low of a frequency, so it was hard to hear. We tweaked the song to be higher pitched and the notes to play a little longer.

Evaluation

Yes, the robot successfully follows the wall until it senses the docking station. It then starts to dock itself. The code associated with these actions are preformed without error. If we were to move the docking station the Roomba changes course to the new location. During testing, we experienced the occasional problem of the robot sensing the docking station through or over the wall. The robot completes every task expected for this final assignment. Its movement is slightly jerky however, we could improve on creating a more smooth and satisfying combination of motions for the robot.

Allocation

Franco Godoy worked on task 1 and task 2.

Jeffrey Knoll worked on task 1 and task 2.

Kaitlyn Ash worked on task 2 and wrote the report.

Noah Wartzack helped with report and wrote the readme.