EE3422- Embedded and Real-time Systems

LAB-5

Your group has applied to a robotics company for some positions of programmer. Due to the excessive number of applications, the company has decided to set up **two tasks** for all the groups that have applied. The three groups that manage to complete the task will be accepted for the position.

1. The first task that you have been assigned is to write a code for an object avoidance robot that has been provided to you. The robot should be able to navigate its way through a maze. It should be able to stop when there is an object in its path, it should be able to check the distance on its left and right and turn in the direction that is not blocked.
2. The group whose robot can navigate its way through the maze the quickest, with the least number of collisions and whose program is efficient (i.e. the program is not too long, uses functions, loops, branching statements and is clearly commented) will be selected for the post.
3. The time allotted for completion of this task is till the first hour of the lab on . The second task will be given once the first task is completed.

Marking:

1. Quality of Code (Use of functions, comments for the reader, clarity and logic used).
   (10 marks)

2. Quality of assembled Robot (No loose wires etc)
   (5 marks)

3. Navigation in a maze or desired path with less collisions.
   (15 marks)

4. Making the decision based on the left and right direction obstacle.
   (10 marks)

LAB-5 END