The Hong Kong Polytechnic University

Department of Electronic and Information Engineering

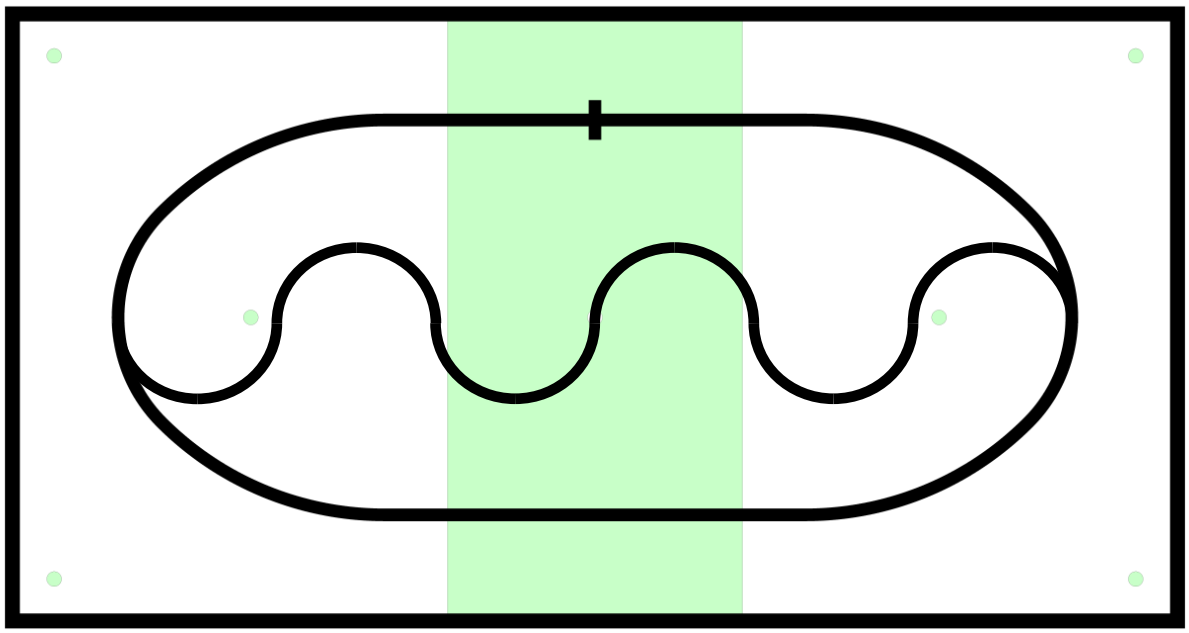
EIE3105 Integrated Project (Part II)

Grading Scheme and Demonstration Arrangement for Demonstration 2 and 3

Demonstration 2: Two Laps Track Tracing (15%)

Outer Track (Part A, 12%): You need to program your robot car to run two laps of the outer track automatically within one minute. The arena of the track is shown below. This track can be found in CF005, CF503 and CF505. You should use PID control technique in your robot car so that it can follow the track automatically. The marker on the track is the starting point and the end point.

Inner Track (Part B, 3%): You need to program your robot car to run two laps of the inner track automatically within ***two minutes***.



Grading Scheme

1. Part A: You will score ***no marks*** if your robot car cannot meet the requirement.
2. Part B: You will score ***1.5 marks*** if your robot car can run at least one lap within two minutes. You will score ***no marks*** if your robot car cannot finish one lap within two minutes.
3. You need to demonstrate it in front of our tutors or technicians.
4. It is not allowed to disturb the demonstration (e.g., touching the robot car, moving the arena); otherwise, you score ***no marks***.
5. If you have any questions about the demonstration and grading, please contact Dr. Lawrence Cheung.

Demonstration Arrangement

1. You can demonstrate more than once.
2. Early bird demonstration: You can demonstrate in Week 7 or 8 during the laboratory session. The bonus is the total marks × 1.05 but at most you can score is 15 marks. There is no limit to the number of attempts if you demonstrate early.
3. In Week 9, you can demonstrate ONE time only according to the timetable published in Blackboard. The time is allocated for the demonstration of Part A only. You will score no marks if you cannot show your demonstration in your assigned time slot.
4. We assign one hour for students to demonstrate Part B (inner track). You can come to demonstrate Part B in CF505 from 10:00 am to 11:00 am on 21 March 2018 (Week 9). We will not check your demonstration after 11:00 am.

Demonstration 3: Ball Game (15%)

Two students form a group. There is one robot car in Zone A (say Car X) and another robot car in Zone B (say Car Y) (see the figure on next page). One robot car is required to hit a ball so that the ball can pass through the green zone (the middle one) to another zone. The ball should be hit back by another robot car. The performance of two robot cars is counted on the number of hits (the number of points) within one minute. Note that a point is scored (or a hit is counted) if the following two conditions are met:

1. The ball is hit by Car X first and then Car Y, or the ball is hit by Car Y first and then Car X.
2. The ball moves from a white zone, through the green zone and stop in another white zone.

Group Registration

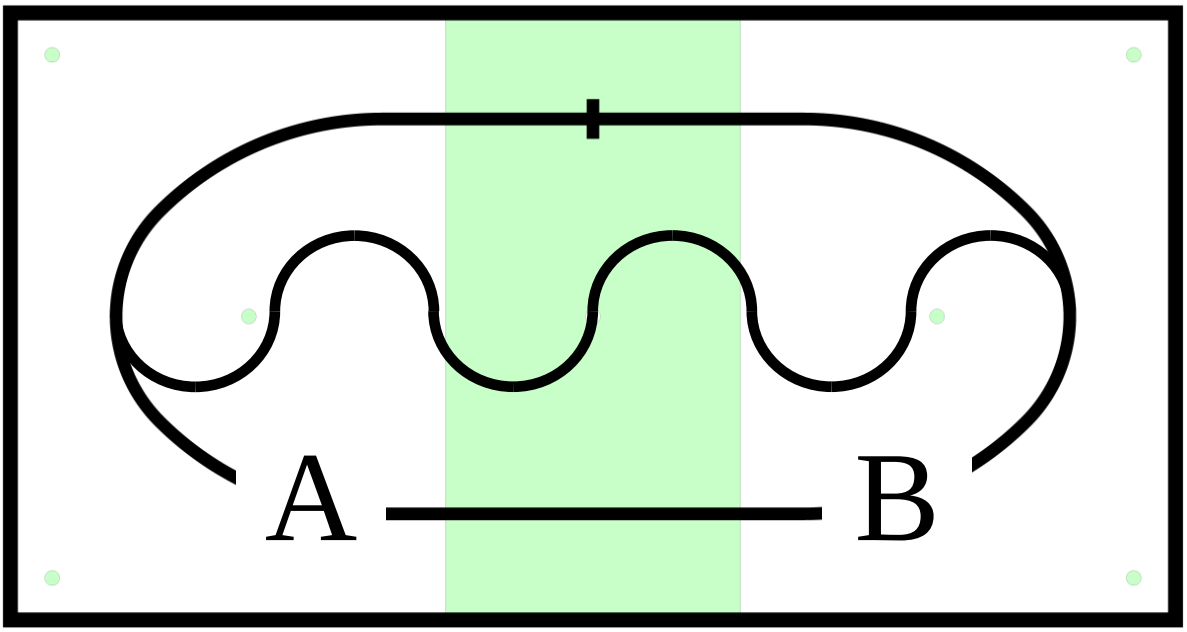
You have to form a group on or before Week 9 and show your partner's name after you show Demonstration 2.

Grading Scheme

Ranking is assigned to all students after the deadline and marks is assigned according to your rank (a team with higher ranking scores higher marks and vice versa). You can view your scores through Blackboard one week after the deadline.

Demonstration Arrangement

1. You can demonstrate at most twice in Week 13.
2. Early bird demonstration: You can demonstrate in Week 11 or 12 during the laboratory session. There is no bonus mark because you have two more attempts to score higher points.
3. In Week 13, you can demonstrate at most twice only according to the timetable published in Blackboard (it will be found in Week 12). You will score no marks if you cannot show your demonstration in your assigned time slot.


A
B