

WALL TOUCH

INTRODUCTION

Revive the child in you and make memories, have fun as you used to have in your childhood while playing “Wall touch”. Here, we provide you a platform where you can make the robot play the same game. The path of the robot is guided by the black lines and the robot must identify two walls on the path to win the game. Make sure your robot reaches two walls in the shortest time and announce its success by ringing the buzzer. So, are you guys ready for this fun challenge??

PROBLEM STATEMENT

To build an automated robot, within the given specifications which can follow guided lines, detect and count the walls.

QUALIFYING ROUND

1. The black lines will be of width 3 cm (with 5 % tolerance).
2. The lines may be straight, curved, right angled or may have junctions.
3. The wall will be of height 20 cm and width 20 cm.
4. The arena will be unbiased to both left priority and right priority bots (i.e. laterally symmetrical).

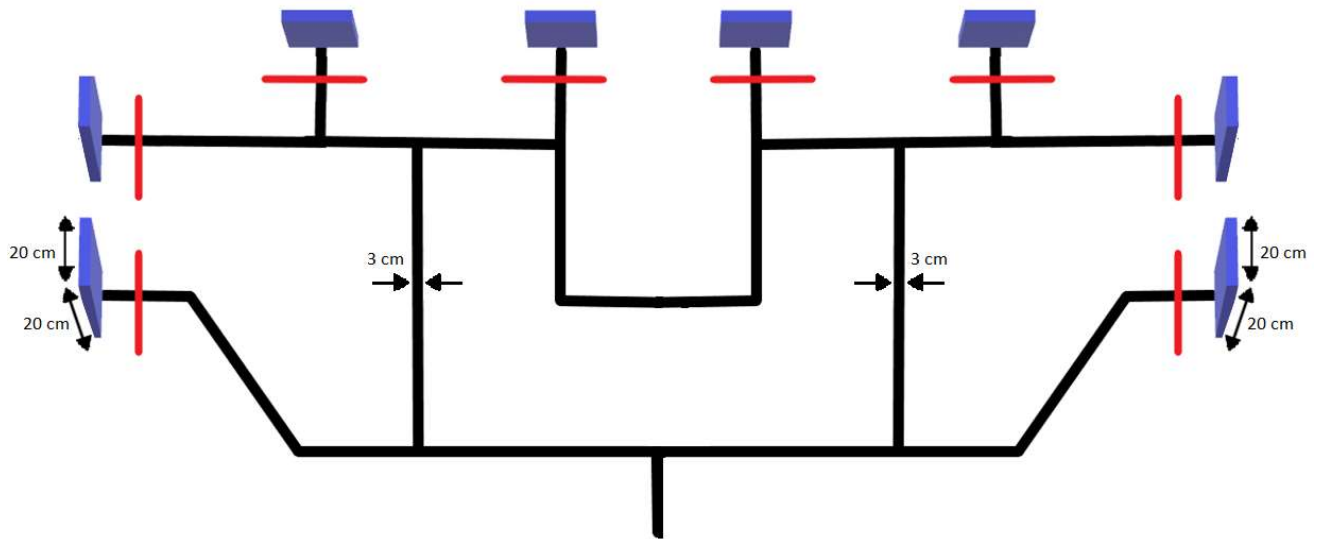


Fig: Sample arena (just a representation of the problem statement, not the final arena)

5. The automated bot shall be left at the start point, to follow the black line on a white surface.
6. As shown in the figure, there will be walls at some particular points. The bot shall go to 2 walls and ring a buzzer.
7. The wall is considered to be reached only if the bot crosses a line drawn 10 cm away from the wall.
8. If the buzzer does not ring after the second wall, the bot may go to the third wall and ring it and so on.
9. The timer will be stopped only upon ringing of the buzzer, after reaching minimum two walls.
10. Ringing the buzzer before going to two walls will lead to zero points in that round.
11. 2 minutes of time will be given to each team for any calibration.
12. The arena will not be shown prior to the game.
13. The judging criteria will be the least time taken to ring the buzzer (after reaching minimum 2 walls).

NOTE: Subsequent rounds will be disclosed at the time of the event.

BOT SPECIFICATIONS:

1. The bot shall be completely autonomous.
2. The maximum dimensions of the robot is 25cm x 25cm x 20cm (l*b*h).
3. The potential difference between any two points should not exceed a limit of 12V.
3. Power supply should be ON board.
4. There is no weight limit for robots.
5. Tolerance of 5% on dimensions and power supply will be allowed.

RULES:

1. Causing any damage to the arena will lead to disqualification of the team.
2. Touching any wall is considered as damaging the arena.
3. Touching the bot after the game has started will lead to end of the round with zero points.
4. Ringing of the buzzer after 30 seconds of crossing a wall will not be considered.
5. If the bot remains stationary for more than 1 minute, then the round ends.
6. A team can consist of a maximum of 4 members.
7. Members of different institutions can form a team and must carry your respective college ID cards.
8. Only 2 members of a team are allowed to stay around the arena (for controlling and assisting).
9. Only Undergraduates are allowed to participate in the event.
10. No technical assistance will be provided by the coordinators during the time of the event.
11. No practice runs will be provided.
12. No external power supply will be provided at the time of event.
13. A robot with the base of a toy car and its gearbox as a machine part will be disqualified. Also, LEGO kits are strictly prohibited.

14. Member participated from a team cannot participate in another team for the same event.

15. A robot is allowed to participate only once in that particular event.

16. The organisers are not responsible for any kind of damage to your robot.

17. In case of any discrepancies, the decision of the coordinator and the event head shall be final and no further arguments shall be entertained.

NOTE- Kindly stay updated with the ROBOVANZA website to know the changes.

CERTIFICATE POLICY:

1. A certificate of participation will be awarded to all participating teams except for the disqualified teams.

2. A certificate of appreciation (or excellence) would be awarded to the winners.