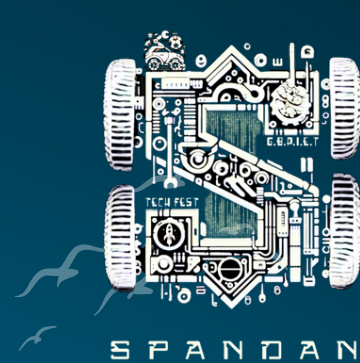




SPANDAN 2K23



Line Follower Robot (LFR)



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S P A N D A N



INTRODUCTION

Team will build their own autonomous robot within the specified dimensions to achieve the maximum speed on the given track and reach the destination in minimum time. The robot must start behind the starting point and is considered to have crossed the finishing line if any part of the robot crosses it in a full lap of the course. The robot must follow the black line.

OBJECTIVE

The task for line following robots is to drive through the track marked with a black line as fast as possible.



The Robot

RULES FOR ROBOTS:

1. Batteries must be sealed, immobilized electrolyte type (gel cell, lithium, NiCad, or dry cells).
2. The electric voltage anywhere in the machine should not be more than 12V DC at any point in time for each robot.
3. Infrared light-reflecting materials must not be used on the outside. If robots are painted, they must be painted matte. Minor parts that reflect infrared light could be used only if other robots are not affected. Robots must not produce magnetic interference for other robots on the field.
4. If a team claims that their robot is affected by the other team's robot in any way they must show proof/evidence of the interference. Any interference must be confirmed by a Referee if a claim is placed by the other team.
5. The robot must be autonomous.
6. Robots must be constructed and programmed in a way that their movement is not limited to only one direction and must move in all directions.
7. No wireless communication between bot and operator will be allowed. Bluetooth, RF Module, etc not allowed on bots.



8. Any robotic parts/building material can be used until the robot meets the above specifications and if the design and construction are primarily the original work of the team as ready-made robots are not allowed to compete in the competition.
9. The participating bots must be wireless and autonomous. It can be circular / Rectangular in style. Bots must fit inside a box of 30 centimeters length, 25 centimeters wide and 20 centimeters height at any point in time. Maximum weight should not be more than 5Kg including battery.

The Team: Eligibility For Participation

1. The competition accepts participation of teams.
2. A maximum of 4 members will be allowed to form a team for the competition. For additional members, an extra fee of 50 per person will be charged with the original registration fee.



LFR Game Play

- The robot will be placed at the starting point with the consent of the referee.
- Bots may restart the run if the person handling it feels the necessity. A restart can be requested only if the robot doesn't follow the line, has stopped halfway, or has lost the directions/Black line.
- At any restart, the robot must be re-positioned back at the start point.
- It is not allowed to add/remove parts on the robot during the run, but adjusting the sensors and changing power supply is permissible with the consent of the referee.
- The RACE CLOCK/RUN TIME will reset to zero on every restart. The COMPETITION CLOCK (maximum access time) will keep running during all restarts.
- Only 9 restarts are allowed for each round. A robot must restart if bot does not start after pressing the Start Button for 30 Second, bot is touched by a human without the consent of the referee, bot moves out of the arena or the referee orders it to restart.
- There will be two rounds in Fastest Line Follower gameplay i.e. Elimination round and a Final round.
- If all bot's are not able to complete the Maze, checkpoint system maybe adopted at the time of competition. All final decisions will be made by referee.



The maze will be designed with various twists, turns, and intersections to challenge the robot's line-following capabilities.

Scoring: The robot's performance will be evaluated based on factors such as speed, accuracy, time and successful completion of the maze.

Sample maze for line follower is given below.

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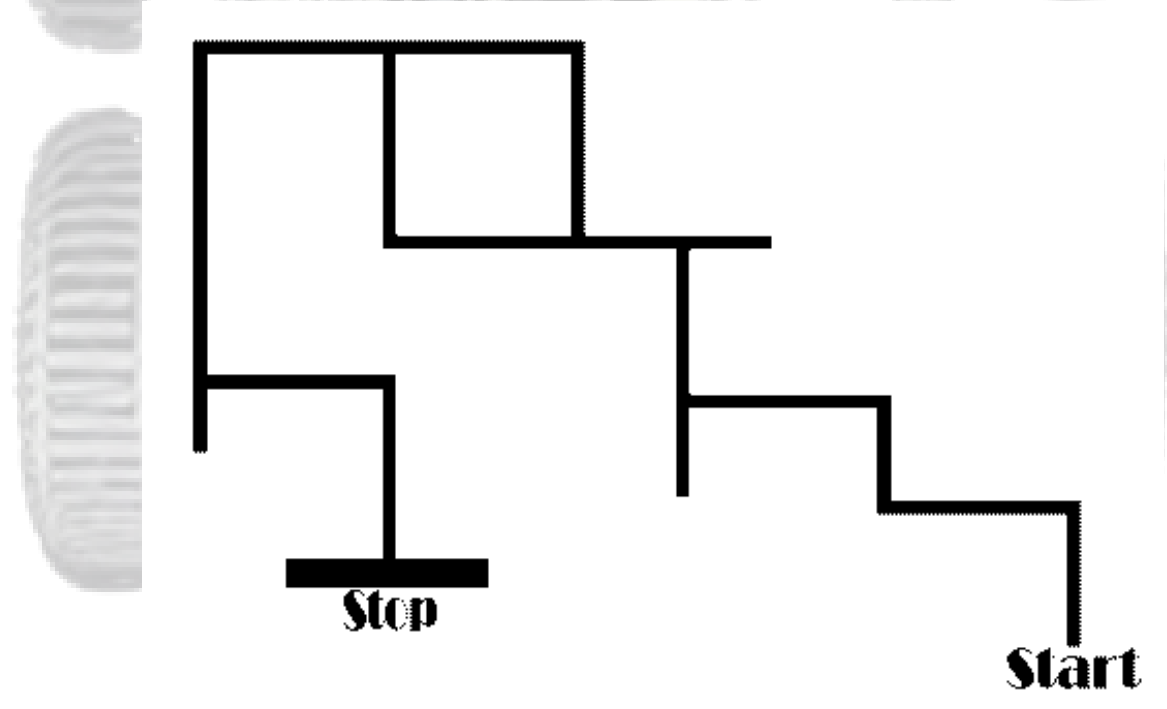
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Coordinator :-

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