LINE FOLLOWER ROBO

Test your coding skills….

Problem Statement

- The object is to design an autonomous bot that will follow a track comprising straight lines, curves, angles of different degrees, cross-overs and line breaks.
- Number of Rounds: 2
- The first round will be a qualifier round. The teams that qualify round 1 shall compete
- with each other in Round 2 .
- The maximum number of teams that will qualify for the
- second round will be decided at the time of competition.

Track Specifications :

Sample Track

- **Round 1**

1. The width of the track will be 2.5 cm.

2. The whole track will have various checkpoints at regular intervals. The teams shall be awarded marks according to the number of checkpoints cleared.

3. The entire track will consist of a black line on a white background.

- **Round 2**

1. The width of the track will be 2.5 cm.

2. The track shall consist of both black line on a white background and white line on a black background.

3. The track will have complications such as dead ends and dark areas to check the coding acumen of teams.
4. The ending position will be a solid white colored box over black background as shown in sample track.

Robot Specifications

1. The Robot must fit inside a box of dimensions 25cm x 25cm x 25cm during the whole course of line-following.

2. Machine cannot be constructed using readymade Lego kits or any readymade mechanism. Violating this clause will lead to disqualification.

3. In case the robot gets off the track, only two more runs will be provided. Also the robot will have to start afresh from the last checkpoint cleared.

4. The robot must not damage the track in any manner

Power Supply and Propulsion :

1. The machine cannot use an externally placed power supply but only onboard power supply. No external power supply will be provided. The onboard power supply used must be non-polluting and must satisfy the safety constraints determined by the judges.

2. In case the machine is using a non-electric power supply, the team must get it approved from the organizers beforehand via email. Organizers will not be responsible for inconvenience if approval is not sought.

3. Maximum permissible DC Voltage that can be used is 24 V.

General Rules :

All the students enrolled in high school, undergraduate, postgraduate (excluding PhD.) program at any recognized institute (identity card will be checked) are eligible to participate.

• Team must declare a name for their machine at the time of competition.

• A team may consist of max 4 members. The members from different colleges can form a team.

• If the robot goes off the track in its first attempt, it will be given 2 more chances. The teams can make some hardware changes during this period, like changing batteries, adjusting sensors, but no extra hardware can be added and no changes in the code can be made.

• The teams may take their robots off the track twice while running for calibration and adjustments which would result in time penalties.

• In case of a tie, the team which covers the track successfully in the least time will be declared the winner.

• Rules are liable to minor changes which will be updated on the site.

• In case any kind of dispute arises the judges' decision will be considered final and binding to all and no argument will be entertained.

• Judges have the right to disqualify any team if they feel the team is not playing with fair interests.