

EVENT – LAKSHMANAREKHA

ROBOVEDA'18

“There are two different paths. I took the less travelled path and that made all the difference”

LAKSHMANAREKHA is a line following event in which the line shall be black on white background. The robot should complete the whole path in the least amount of time. The robot has to traverse a path which comes with deviations, distractions and cross paths. A robot which can stick to its path without going off the track from start block to exit block by following the black lines in shortest time with accuracy will be the champ of the event.

PROBLEM STATEMENT:

Design and fabricate an autonomous line following robot capable of navigating efficiently through guided black lines on a White floor. Line follower robot should complete the given path consisting of junctions, different angled curves within given time. It must be able to effectively follow the guiding path. The racers will be tested on speed and accuracy through the path to be followed.

ARENA DESCRIPTION:

1. Path of the line follower, being black in color will be placed on a flex sheet.
2. The total shape of the arena may be square or rectangle.
3. Width of the line is 3cm having a tolerance of 1cm..
4. The color of path and total arena may vary in small proportions.

SPECIFICATIONS OF THE ROBOT:

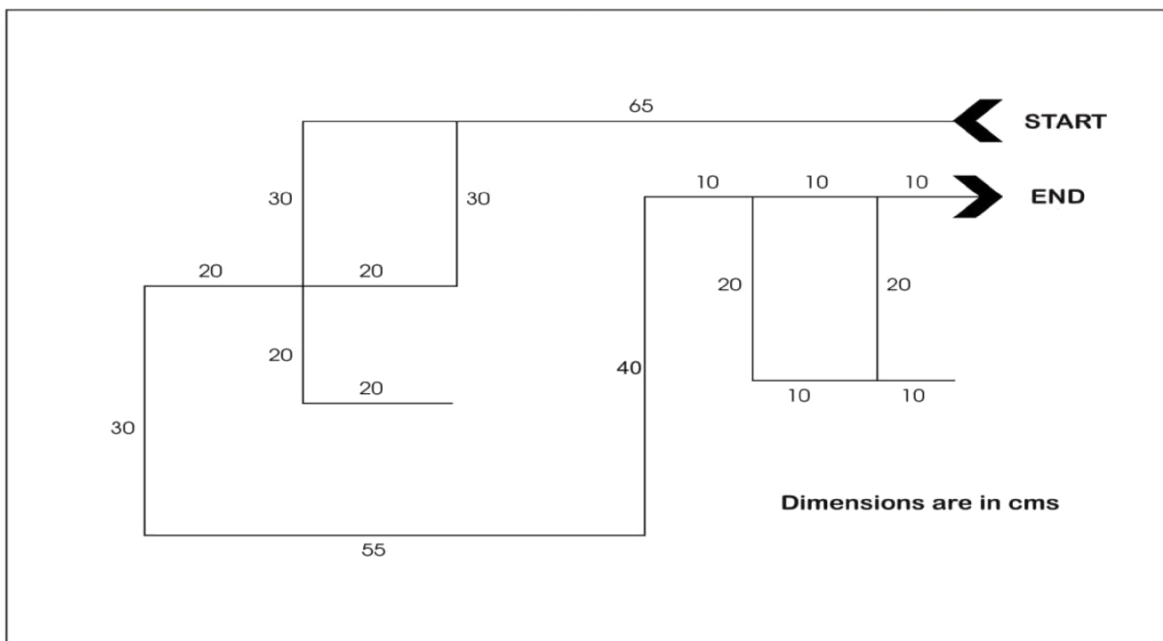
1. Maximum dimensions of the robot should be **20cm x 20cm x 20cm (l*b*h)**.
2. The potential difference between any two points of the circuit of the robot should not exceed **12V** (battery should be **ON** the robot).
3. Robot should deal with the **lighting conditions** of the arena surroundings.
4. **Ready-made or Lego kits** are strictly not allowed.
5. All the systems (like sensors, power supply and data processing & control systems) must completely reside on the robot itself.

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QUALIFYING ROUND:

1. The robot should complete travelling the path within a given time.
2. If the robot traverses the path within in a given time and with least penalties then the robot will be qualified in the first round.
3. Manual touch will be considered as a penalty. Each penalty adds extra time (which will be declared at the event) to the total time.
4. Arena will contain a white flex sheet with black colored lines on it.
5. Width of the line is 3cm having a tolerance of 1cm.
6. Minimum time span to traverse the path will be mentioned on the day of the event.
7. Robot should not damage the arena. If it does, the robot will be instantly disqualified.
8. The participants will be provided 5 minutes of time for calibration and making any changes in their code before entering the arena.

ARENA DESIGN:



Note: The dimensions of arena may not be exactly as shown in the figure. It just resembles the figure shown. The figure shown above is not up to scale.

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RULES AND REGULATIONS:

1. A team can consist of a maximum of **4** members.
2. Only **candidates pursuing their under-graduation** can participate.
3. Members of different institutions can form a team.
4. Only 2 members of a team are allowed to stay around the arena (for controlling and assisting) and a team is allowed to play with one robot only.
5. Any kind of damage to the arena will not be entertained, and if done, the robot will be immediately disqualified.
6. Number of resets allowed are **2** only if the robot moves out of the arena (line).
7. If the robot moves out of arena more than twice no resets will be provided and the robot will be considered as disqualified.
8. All the required accessories have to be brought by the participants. Lending or making the robot to participate in same event with different team will not be entertained
9. No technical assistance will be provided by the coordinators during the time of the event.
10. No practice runs will be provided.
11. Manual touch will be considered as a penalty. Each penalty adds extra time (which will be declared at the event) to the total time.
12. If a participant does not comply with the rules of the event, the robot will be disqualified from the event.
13. The robot should not harm the opponent or the field. Constantly harming the arena may lead to disqualification.
14. Misbehavior of any kind will not be tolerated and the team will be subjected to disqualification from Roboveda.
15. No external power supply will be provided at the time of event.
16. A robot with the base of a toy car and its gear box as a machine part will be disqualified. Also, LEGO kits are strictly prohibited and will lead to disqualification.
17. Lego or ready-made kits are not allowed.

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NOTE:

1. All participants will be given Certificate of Participation.
2. Winners and runners will be given Certificate of Merit.
3. Same member cannot be a member of two different teams for the same event.
4. In case of any discrepancies, the decision of the coordinator and the event head shall be the final and no further arguments shall be entertained.
5. A robot is allowed to participate only once in that particular event. The robot can participate once again in the same event with same team if it satisfies the following conditions :
 - The team has to **register once again** with modified old robot/new robot before registrations closes.
 - The following modification has to be made to the old robot to accept it as a new robot. They are: Arrangement of the sensors is changed and then it is accepted as a new robot.
6. We request the participants not to assume anything without contacting us.
7. Team Roboveda is not responsible for any kind of damage to your robot.
8. All participants must bring their college ID card.

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

****THANK YOU****

EVENT COORDINATORS:

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