Match the dimen

- Scan to match dimensions

INTRODUCTION:

Still using conventional scale for measuring? Time to use technology. Build a bot capable of measuring width of the boxes, to match them.

PROBLEM STATEMENT:

Build an autonomous robot skilled enough to follow a black lined path, and measure and compare the dimensions (width) of the cubes placed in the path.

QUALIFYING ROUND:

1. A black line placed on the white surface is the path (as shown in fig 1).
2. Black line will be of width 3.0 cm.
3. The robot will be placed at the start point.
4. Each team will be given 2 minutes for calibration of sensors.
5. The robot has to follow the path to the END.
6. 4 **cubes**, whose surface is made of plain white paper, will be placed along the path (2 on its left and 2 on the right, as shown in fig 1).
7. The cubes on left are labelled as A, B and those on right are labelled C, D.
8. The robot has to calculate the width of the cubes when the robot reaches them.
9. The robot may stop to measure the width of the cube.
10. The robot must have 2 LED lights (LED1,LED2).
11. The robot has to compare the width of cube A and C. If their widths are equal then LED1 must glow.
12. The robot has to compare the widths of B and D. If their widths are equal LED2 must glow.
13. The team which indicates LED1, LED2 properly and completes the path in least time will be the winner. The LED can be glowed at any time.

ROBOVANZA

ARENA:

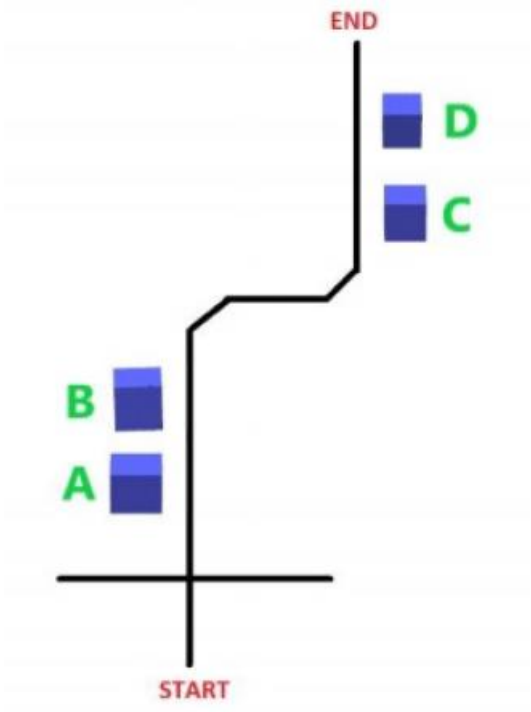

Fig. 1

ROBOT SPECIFICATIONS:

1. The maximum dimensions of the robot are 40cm x 40cm x 40cm (l*b*h).
2. Robot should be autonomous.
3. Power supply to the robots should not exceed 12V.
4. Power supply should be ON- BOARD.
5. Tolerance of 10% on dimensions and power supply will be accepted.

RULES AND REGULATIONS:

1. A team can consist of a maximum of **4 members**.
2. Members of different institutions can form a team and must carry your respective college ID cards.
3. Only **2 members** of a team can stay around the arena (for placing and picking robot at start and end, and assistance during technical timeout if any).

4. Any kind of damage to the arena will not be entertained, and if done, the robot will be immediately disqualified.
5. No technical assistance will be provided by the coordinators during the time of the event.
6. 10 min practice runs will be provided on the main arena.
7. Use of an IC engine in any form is not allowed.
8. Human interference (e.g. touching the robot, stepping into the arena) during the game is not allowed.
9. No external power supply will be provided at the time of event.
10. 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.
11. Member participated from a team cannot participate in another team for the same event.
12. Two technical time outs, each of 2 min can be used. New program cannot be uploaded during these.
13. A robot can participate only once in that particular event.
14. The organizers are not responsible for any kind of damage to your robot.
15. In case of any discrepancies, the decision of the coordinator and the event head shall be final, and no further arguments shall be entertained.
16. The teams should bring their own toolkits.

CERTIFICATE POLICY:

1. A certificate of participation will be awarded to all participating teams except for the disqualified team.
2. A certificate of merit would be awarded to the winners, along with prize:

***1st Prize** : **Rs 5000**

***Prize for best design**: **Rs 3000**

CONTACT:

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