COLOUR SORT

INTRODUCTION

Every one of us has played with colored balls when we were young. What if we again play with colors using a robot? Exciting, right?

In this event, an autonomous robot has to detect the color of a ball and has to transfer it to that particular color box. Design your robot with color detecting and pick-n-drop capabilities with swiftness, giving a great competition to other teams!

PROBLEM STATEMENT

A completely autonomous robot which can pick the object placed at a known position, detect its color, and put it in the respective box at a known location.

QUALIFYING ROUND

1. The robot must be placed at the start point.
2. The robot must move to a specified point where different colored objects are placed.
3. The robot must pick the object, detect its color, go to the respective colored box and then place it in the box.
4. The robot should revisit the specified point for the next object.
5. Height of each color box is 10 cm.
6. The objects can be of any shape and the maximum dimension of the object will not exceed 5 cm.
7. Points will be awarded for the number of objects sorted in a specified amount of time.

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

ROBOT SPECIFICATIONS

1. The robot must fit into a box of dimensions 30cm*30cm*30cm.
2. Power supply to the robots should not exceed 12V.
3. Power supply should be ON board.
4. There is no weight limit for the robot
5. Tolerance of 5% on dimensions and power supply will be allowed.

RULES

- The bot can only transform to its size at the beginning. It cannot divide into multiple separate parts.
- The game starts with the robot at initial position.
- The robot shouldn't drag the obstacle
- The robot must be autonomous
- Points will be awarded for the number of sorted balls
- The robot will be disqualified if it damages or tends to damage the arena or obstacles
- A team can consist of a maximum of 4 members.
- Members of different institutions can form a team and must carry your respective college ID cards.
- Only 2 members of a team are allowed to stay around the arena (for controlling and assisting).
- Only Undergraduates are allowed to participate in the event.
- Any kind of damage to the arena will not be entertained, and if done, the robot will be immediately disqualified.
- No technical assistance will be provided by the coordinators during the time of the event.
- No practice runs will be provided.

- Human interference (e.g. touching the robot, stepping into the arena) during the game is not allowed.
- No external power supply will be provided at the time of event.
- 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.
- Member participated from a team cannot participate in another team for the same event.
- A robot is allowed to participate only once in that particular event.
- The organizers are not responsible for any kind of damage to your robot.
- 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: **Scoring and penalty rules will be announced on the day of event**

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.