



Robot Terrain

Level II

Problem Statement

To build one Autonomous bot that can solve a maze.

Actual Task Description

Robot is tasked to follow a black line whose path will be in the form of a maze.

Arena Information

*** The competition arena is a surprise for all the team.

*** It will be disclosed on the day of competition.

*** The size of arena will be 6x4 feet.

*** Maze does not consist of walls.

*** Only black lines will be there on the arena

Arena Tasks

- The bot needs to follow the given track of Blackline in the arena
- While following the track Bot needs to make its decision while turning, such that it solves the maze in the shortest possible time.

Scoring

- Time is the only criteria.
- The fastest one wins.
- In case of incomplete task, the displacement of the robot from the finish area will be calculated **out of the final run**.
- Bot with shorter displacement will be given preference.

Middle-Level Rules and Regulations

- Maximum of 2 members per team is allowed.
- Students from class VII to IX are eligible for the competition.
- Robot must not exceed **9.5 x 9.5 inch** in dimensions.
- The duration of the run will be **6 minutes** and there won't be any trial time provided for the run on the event day.

- **Deviation:** If a robot deviates from the line, the deviated robot will be kept at the respective start area.
- A total of 4 deviations (4 runs) are allowed during the whole arena run of 6 minutes. In such a situation, the run need to start again and the referee would bring the deviated bot to its respective start area.
- No time will be paused in case the robot deviates from its path.
- **Only Avishkaar kits are allowed to build these robots.**
- A power source of 7.4 Volts and 2200 mAh current is allowed in the bots.
- Participants can touch the robots only when they are in the Start areas (Overruling this can lead to disqualification) and nowhere else. They can repair their robot at the start area in case of damage in the robot and no time will be paused.
- If robot gets stuck anywhere, only the referee will keep the robot at the respective start area/areas.
- If any of the robots go out of the arena, the referee would bring it back to the respective Start area
- During the arena run if by any means the arena got damaged then the referee can disqualify the team.
- If a team is able to finish all its tasks before time, a bonus of 5 points per 5 seconds will be added to their final score.

Explanation of the parts that can be used

Brains: There is no limitation on the number of brains used per robot. Choose only from the Avishkaar-manufactured ones.



Sensors: You are allowed as many sensors as you like, but the types are limited to touch, infrared, color, sound, ultrasonic or temperature. Choose your favorite combination from among the Avishkaar-manufactured ones shown here. No other sensors are allowed.



Motors: There is no limitation on the number of motors used per robot. Choose among the Avishkaar-manufactured ones. No other motors are allowed.



Verification of Robots

Note: The design shown in the image is a graphical image and no design reference must be drawn from this. For your design, please refer to the exact size details of the verification prop.

Note: Bot should sit comfortably on the floor while verification. Any part of the bot in the air would be liable for rejection

