MAZE RUNNER

INTRODUCTION

Do you maze? Now comes the time to make a robot that is capable of mapping out an unknown maze, mark checkpoints and navigate the shortest possible path through the maze in the least amount of time.

PRIZE MONEY

1st Prize: Rs. 15000
2nd Prize: Rs. 10000
3rd Prize: Rs. 5000

PROBLEM STATEMENT

Participants are required to build an autonomous, self-contained robot within the alloted parameters, which can get to the center of a maze in the shortest possible time. The robot will start on the START point and the robot which will reach the FINISH point in the shortest time possible will be declared as the winner.

ROUND 1(ONLINE):

It will be an abstract round where participants have to answer how to solve the given maze efficiently after analyzing the given track and submit their response. A sample maze will be given and participants are expected to submit an abstract refering to the solution of the given maze.

ROUND 2(OFFLINE):

The robot will be required to follow the path on the arena. The layout of the arena will be disclosed on the spot.

GENERAL RULES:

- If less than 5 teams register, then only the first prize will be given, and if 5 to 15 teams register, only two prizes will be given. All three prizes will be given only if more than 15 team registers.
- Any misbehavior will lead you to disqualification from the competition.
- In case of dispute, decision taken by judges will be final and binding for all.
- The idea presented by the teams should be original.
- No one shall enter the arena except the organizers.

CONTACT DETAILS:
Viren Gadhavi - 9638255393
Yash Mhatre - 9920584449

- If any of the above-mentioned rules, if found violated, teams would not be allowed to participate in the competition.
- Any damage caused to the arena at any time will lead to a penalty.

TEAM SPECIFICATIONS:

- You can participate individually or with a team of maximum of 5 members.
- Any number of teams can participate from one college/school.
- Professionals are not allowed. Only students can participate.
- Participants are required to bring their school/college ID cards.
- Once registered, the same team cannot register with another name or for another rocket other than the previously registered one.
- Team name should not be offensive, conflicting, or inappropriate.
- Organizers have the right to reject entries for any inappropriate team name.
- Organizers must be notified if a team's name has been changed.
- Each team must specify their Team Leader at registration on the website. All critical communications between the organizer and the registered team will be done through their Team Leader. The Team Leader must submit valid contact details (mobile number, email id, etc.) at the time of registration.
- If teams don't show up in the allotted slot, they will be disqualified.

JUDGING CRITERION

- All contesting machines shall be collected before the maze is unveiled.
- After the maze is unveiled, the mouse handler is given 2 minutes before the start of his/her run to make adjustments (if any) to the mouse sensors and calibrate the sensors.
- Each contesting robot is allocated a total of 10 minutes of access to the maze after the 2 minutes sensor adjustment time. In the first 7 minutes, the robot has to solve the maze and also map the correct path and in the following 3 minutes the robot has to complete the maze according to the mapped path. The maze-time clock will commence after the expiry of the 2 minutes time limit even if the handler is still making adjustments to the sensors.

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- The time taken to travel from the start square to the destination square is called the "run" time. The total time taken from the first activation (after calibration is done or calibration time is over, whichever is less) of the micro mouse until the start of each run is also measured. This is called the ‘maze’ or 'search' time. If the micro mouse requires manual assistance during the contest, it is considered "touched." Scoring is based on these three parameters.
- A contestant should not feed information on the maze to the micro mouse. Therefore, changing ROMs or downloading programs is NOT allowed once the maze is revealed.
- However, contestants are allowed to:
  ➔ Replace batteries between runs
  ➔ Adjust sensors (gain, position, etc.)
  ➔ Change speed settings

  Though the maze-time clock won't be stopped for these interventions given above.
- The contestants should be prepared with the circuit diagrams, algorithms, and code listings to convince the judges that any alteration they do in the total 5 minutes span does not add topological information about the maze to the mouse.
- Participants are allowed to restart once and suitable penalty will be added.

ROBOT SPECIFICATION

- A robot shall be self-contained. It shall not use an energy source employing a combustion process.
- A robot should be such that it fits between the given wall specifications.
- The method of propulsion is at the discretion of the builder, provided that the power source is non-polluting and should not harm the arena.
- A robot shall not leave anything behind while negotiating the maze.
- A robot shall not jump over, climb, scratch, damage or destroy the walls of the maze.

TRACK SPECIFICATION

- The walls constituting the maze shall be 15 cm high and 25 cm thick. Passageways between the walls shall be 15 cm wide, outside wall shall enclose the entire maze.
- The sides of the maze shall be white. The floor of the maze shall be made with non-gloss black paint.

REGISTRATION DETAILS

- Fees : Rs. 100
- Register at our website: **https://mindbendsvnit.in/**

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