

Line Quest

Registration fee-200/- per team

Task

Team has to build an autonomous bot which follows White line on the black board. Bot has to complete the path in the Minimum time.

Arena

The Competition field consists of a wooden arena having dimensions 8ft. X 8ft. (L x B).

It consists of following:

1. The path is composed of random path of white strips.
2. The angle between the two adjacent white lines is 90° in first round.
3. The width of white strip is 25mm-30mm.
4. At the end point a white box of 300mm X 300mm.

Game Play

1. The Bot will start from 'START' and have to reach the end point of the path. The Bot have to give a signal of LED glow when it reaches the End Point. There are no restrictions to cover all the checkpoints.

Total Time for game is 3 minutes for first round and 5 minute for Line Quest

2. Second round.

Checkpoints

1. There will be no specific mark for the checkpoints in the arena.
2. Each checkpoint consists of **30 marks**.

Team Specification

1. Any Team can participate in LINE QUEST. A Team may consist of 1 to 4 members participate. These participants can be from same or different institutions.
2. Each team must specify their team representatives (leader) at the time of registration on (website/spot).
3. All important communication between organizers and the registered team will be done through team representative only.
4. A team will be disqualified if it is not present with its Bot on the allotted time.
5. The team will be disqualified if its Bot fails to fulfill the given Bot specification.
6. The decision of coordinators will be final and binding on all.
7. Teams misbehaving with any organizers will be disqualified and in the case of any dispute decision of event head will be final.
8. Each participant must carry a valid identification card.

Bot Specification

1. Maximum allowable dimensions (25cmx25cmx20cm) as per (L x B x H).
2. Maximum 500 rpm motors are allowed for wheel.
3. Battery should be on board.
4. The weight of Bot should not exceed 2kg including power source.
5. Teams are allowed to use on board power supply provided that total voltage should not exceed 25v.
6. Only a single switch is allowed to be installed in the Bot to turn on or off the bot.

Game Rule

1. Game is divided into 2 rounds. **Top 20% teams of 1 round** will qualify for the 2 round which is Final Round of the Game.
2. They will be given 1 minute for calibration. If any team is found to alter its code after depositing its bots, then it will be immediately disqualified from the competition. They are however allowed to make any other hardware changes.
3. Only one autonomous Bot per team is allowed.
4. When the autonomous Bot starts, no team member is allowed to touch the Bot or enter the arena.
5. At the start of the task, the Bot will be placed at the starting point. Only 1 team member is allowed to be near the game field while starting the bot.
6. Run will be start only when the coordinator will give the signal.
7. The starting procedure of the Bot should be simple and should not involve giving Bot any manual force or impulse in any direction.
8. A total of 3 minutes will be given.
9. The participants are allowed to take a maximum of 3 restarts in the entire match.
10. If the Bot takes a restart it has to start from the checkpoint.
11. The timer will not be set back to zero and will not be paused in any case.
12. During a restart, a contestant must not feed information about the arena to the bot. However, contestants are allowed to adjust sensors (gain, position etc.) and make hardware changes.
13. The contestant must not alter the Bot in any manner that reduces its weight (e.g. removal of a bulky sensor array or switching to lighter batteries to get better speed). The organizers reserve the right to arbitrate in such circumstances.
14. At the end, if LED is not blinked, then Task will be considered as Incomplete.

Judging

1. **30 points** will be awarded as it crosses any of the checkpoints but it will be counted only once for each checkpoint.
2. **30 points** will be provided if the Bot successfully completes the Task.
3. **10 points** will be awarded if the Bot glows the **RED LED**.
4. **Decision of the event coordinators will be final.**

Scoring

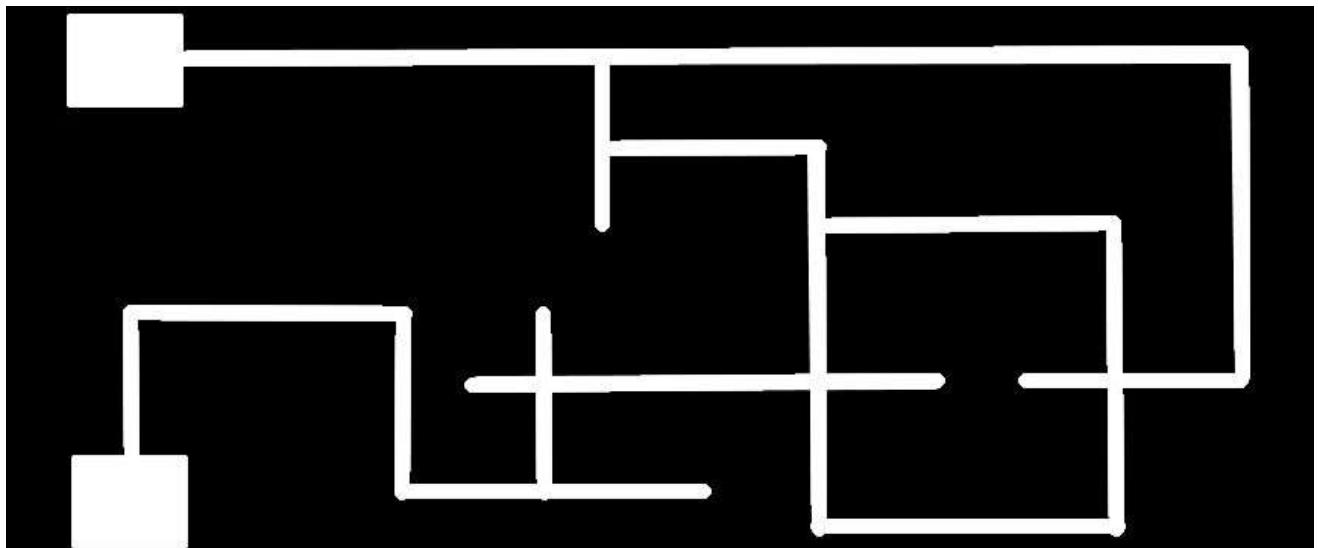
1. $A = 30 \text{ points} * (\text{Number of check points covered during the Task})$

2. $B = 30$ points if the Bot successfully completes the Task
3. $C = 180 - \text{Total time taken in seconds in completing the Task}$
4. $L = 10$ points if the LED glows
5. Total = $A + B + C + L$
6. Scoring pattern will be same for the 2 Round

Eligibility

All students with **a valid Student identity card** of their respective educational institutes are eligible to participate.

Sample Arena



Date:21 Feb-22 Feb ,2018

Venue: Robotics Lab (Mech Dept.)

Time:9AM

Student Coordinator:

Kundan Raj : - **9929670232**

Chetan Tiwari : - **8619632051**