State Budgetary Educational Institution
"Presidential Lyceum No 239 for Physics and Mathematics"

ROBOFINIST

Line Follower

Concept and regulation's elements: myROBOT.ru, railab.ru

1. General

1.1. Field

1.1.1. Polygon colour – white.
1.1.2. Line colour - black.
1.1.3. Width - 50 mm.
1.1.4. Line minimum curve radius – 300 mm.

2. Robot requirements

2.1. Basic specifications

2.1.1. When starting robot dimensions shall be 40 x 40 cm max.
2.1.2. During the movement robot dimensions shall be constant.
2.1.3. Robot's height is not limited.
2.1.4. Robot weight shall be 10 kg max.
2.1.5. Robot shall be fully-autonomous.

3. Game

3.1. Aim of the game

3.1.1. Robot shall reach finish zone from the start zone along the black line for the least possible time.
3.1.2. The total task completion time must not exceed 2 minutes.

3.2. Start

3.2.1. During the start, all parts of a robot must be located behind the start line.
3.2.2. Robot shall be switched on or initialized manually at the competition start on referee command, after that it is not allowed to interfere its operation. It is prohibited the remote control or command issuing for robot.
3.2.3. During the competition, competitors are not allowed to touch the robot's body or the polygon.

3.3. Finish

3.3.1. The task is ended upon command of a referee after a robot crosses the finish line.
3.3.2. By the referee decision the try can be finished in advance.

3.4. Task execution stop

3.4.1. Task execution can be interrupted and the time can be stopped in the following situations:

- If any of team member touches the robot body.
- If robot looses the line for more than 5 seconds[1].
- If the finish conditions are fulfilled (see Paragraph 3.3)

[1] if robot leaves the line when no part of robot is above the line, it can be possible only tangentially and the distance shall not exceed the length that is equal to three robot bodies. In that case the robot length is considered to be the length of wheel base.

- If competition regulation is violated.
- In case of elapse of time alloted for task execution.

4. Rules of winner definition

4.1. All robots are divided into 2 categories:

- Robots assembled using «Lego» and/or «Fischertechnik» and/or «VEX» erectors;
- Robots assembled using other erectors, and robots created independently.

4.2. In each category the winner is defined regardless of other categories.

4.3. Each team is given at least two tries (the exact number is defined by the jury in the day of competition).

4.4. The time of the best try is counted.

4.5. Perhaps the two methods of determining:

4.5.1. The winner in this category is declared the team whose robot reached from the starting point to the place of finish in the shortest time.

4.5.2. Two-tier system, which includes the qualifications and Play-off.