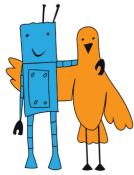


## «LINE FOLLOWER» CONTEST RULES «SEGWAY RACE» CATEGORY

*Version 4.0 dated August 12, 2019*

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## 1. General Provisions

For General Provisions see the “Line Follower” General Contest Rules

## 2. Requirements for the Robot

For General Requirements for the Robot see the “Line Follower” General Contest Rules.

Additional Requirements for the Robot:

- length - not more than 400 mm;
- width - not more than 400 mm;
- height - not more than 400 mm;
- weight - not limited.;

The length and the width of the robot may vary after the start.

The robot must not have more than two fulcrums when moving.

Only the rotation bodies of curves (wheel, ball, ellipse, etc.), i.e. those having two radii of curvature in mutually perpendicular planes, are allowed as supporting structural elements.

Keeping the robot in position at two points of support must be achieved only by the robot's operation.

## 3. Specifications of the field

For General Specifications of the Field see the “Line Follower” General Contest Rules.

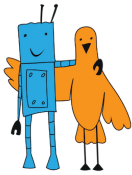
Line Specifications:

- width - 50 mm;
- radius of curvature of the track - not less than 300 mm in any point of the line.

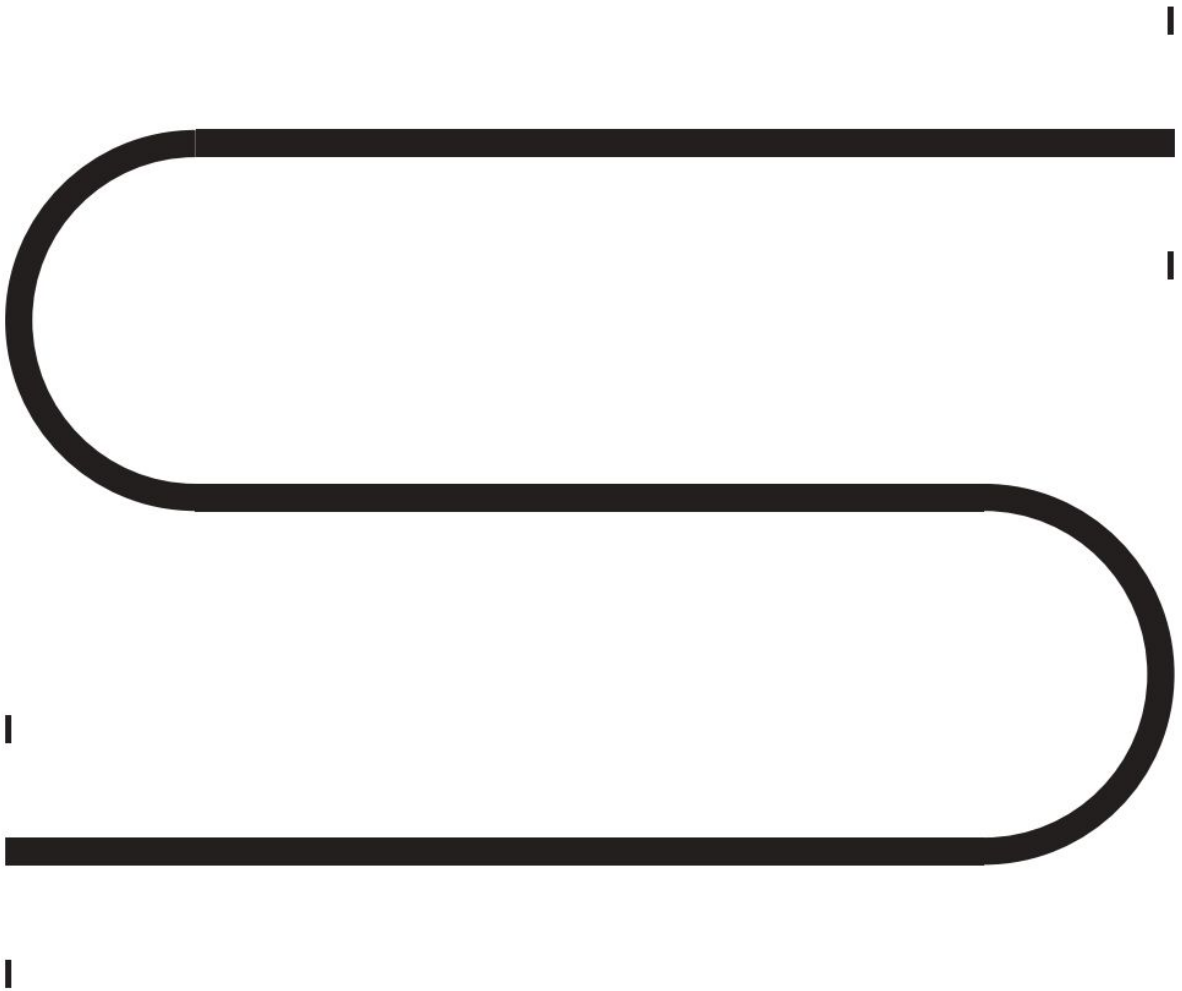
There are two fixed obstacles placed on the line: the “brick” and the “hill”. For the description see the “General Contest Rules”. The size of the “hill”: width (b) - 400 mm, length (l) - 800 mm, height (h) - 70 mm.

Obstacles are fixed no closer than 300 mm from the beginning of the curvature of the line, perpendicular to the track line and symmetrical to it, as follows:

- “brick” - with its smallest side on the second straight section of the track;



- "hill" - on the third straight section of the track.
- The robot operator may remove one or two obstacles at his or her discretion



*Figure 1. Field*

## 4. Contest Procedure

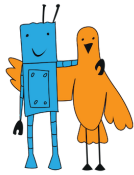
Robots are given three minutes to complete the task.

At the start the robot must be placed within the starting area.

Run stops after any fulcrum of the robot has crossed the finish line.

Run is terminated (the time spent for task execution and points scored during the attempt will be taken into account) in following cases:

- robot has leaved the line for more than five seconds;
- brick detour maneuver lasts more than 15 seconds and/or the return point to the track is further than 300 mm from the obstacle;



- robot has lost the balance (has touched the field by any of its part but not by fulcrum)

To leave (lost) the line means that the projection of the robot is not above the line.

Detour maneuver - the robot has left a straight line section in front of the obstacle and returned to the same straight line section behind the obstacle.

## 5. Disqualification

For the conditions of disqualification see the “Line Follower” General Contest Rules.

## 6. Scoring

Points are awarded for successful passage of the track elements according to the table 1:

*Table 1. Track elements and points scored for them*

Track element	Points for passing element
Straight section of the line without obstacle	10
Straight section of the line with obstacle	50
Curved section	20

The attempt with the highest score is counted. If the points are equal, an attempt with the minimum run time is counted.

## 7. Procedure for Determining the Winner

The winner is the team with the highest score.

If the points are equal, the participant with the minimum run time gets the advantage.