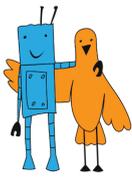


## «LINE FOLLOWER» CONTEST RULES «NARROW LINE FOLLOWER EXTREME» CATEGORY

*Version 2.1 dated September 23, 2019*

1. General Provisions	2
2. Requirements for the Robot	2
3. Specifications of the Field	2
4. Contest Procedure	3
4.1 Qualification Round	3
4.2 Final Round	4
5. Disqualification	4
6. Scoring	5
7. Procedure for Determining the Winner	5



## 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 25 cm;
- width - not more than 25 cm;
- height - not more than 25 cm;
- weight - not more than 1 kg;

The robot must have a start and stop button or a remote control that allows to start/stop the robot remotely. Using a smartphone or computer/laptop for this purpose is prohibited.

## 3. Specifications of the Field

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

The size of the field must be at least 2000 mm wide and 3000 mm long.

The length of the route must be at least 10000 mm.

Line Specifications:

- width - 15 mm;
- minimum radius of curvature - 0 mm;
- line must have 250 mm of free space on both sides, with the exception of the vicinity of the intersection or kink of the route;
- except for the intersection or break of the route;
- crossing lines must be perpendicular to each other at least at 100 mm in each direction from the intersection point;
- the minimum break angle of the route is 90°.

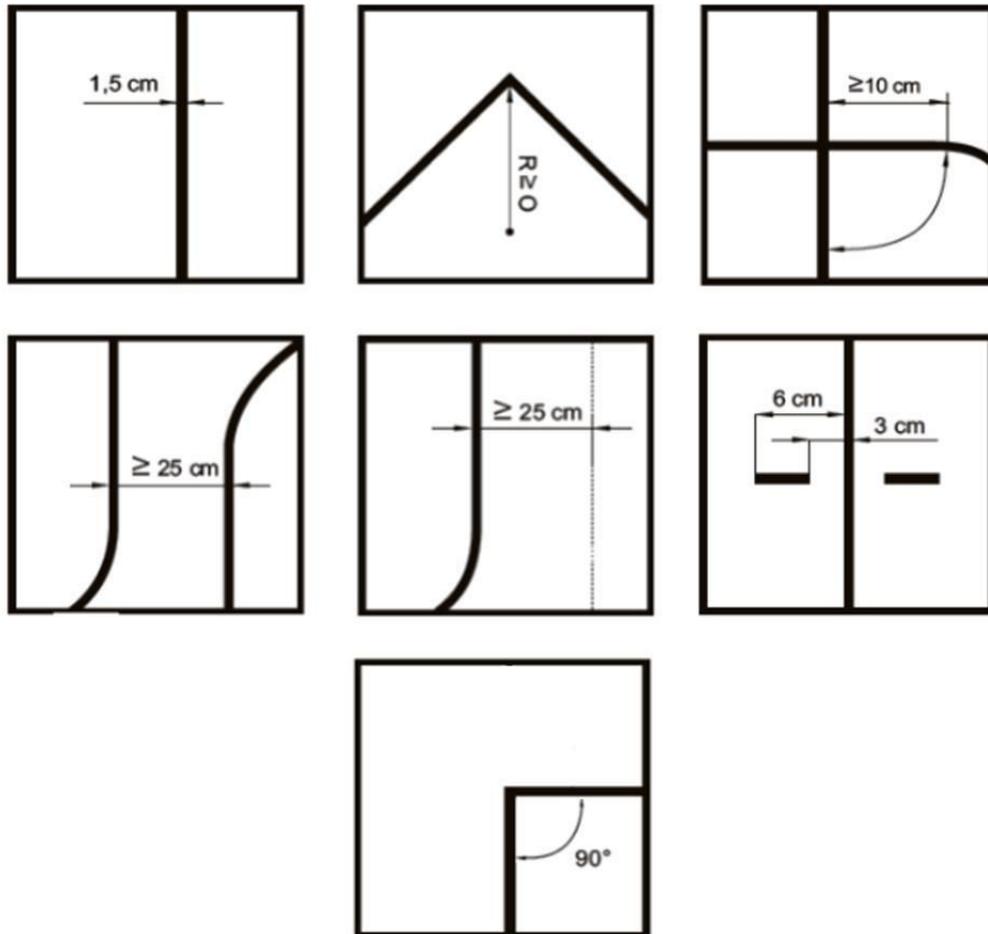
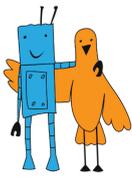


Figure 1. Examples of field elements

## 4. Contest Procedure

For General Contest Procedure see the “Line Follower” General Contest Rules.

Robots compete in pairs at fields located parallel to each other, with a mirrored arrangement of identical tracks. Robots start at the same time in the same direction.

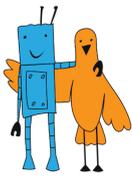
Robots are given two minutes to complete the task.

Competition consists of two rounds: qualification and final.

### 4.1 Qualification Round

Qualification runs are carried out simultaneously at two fields.

A field for each robot is determined by the judge by the draw method.



If absent from all qualifying runs, the participant's robot is disqualified and does not participate in the final round of the competition.

A run with a minimum time counts for qualification.

## 4.2 Final Round

Teams with the best qualification round time proceed to the final round. The number of participants who reached the final round is determined by the Organizers on the day of the competition.

Teams compete in pairs according to the Olympic system.

Participants are paired on the “best with worst” principle according to the ranked list of finalists (see the General Competition Rules).

A field for each robot is determined by the judge by the draw method.

One match lasts up to 3 runs or until one of the teams scores 2 points.

At the judge's command, the robot must start moving within 3 seconds, otherwise it loses the run and one point goes to its opponent.

The robot that finishes and shows the best time of the run wins this run and gets one point.

If both robots are off the track, points will not be awarded in this run and a draw is declared.

In the 3rd run, if the points are equal (0:0 or 1: 1 according to the results of the two previous runs), the robot which came first to the finish line or which is closer to the finish line when the run time expired or when both participants lost the line wins.

The robot that scored the most points after 3 runs or the first one scored 2 points wins the match.

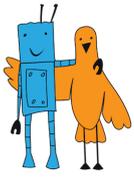
In order to resolve technical faults, the judge may give the participant a technical break for the duration of the run of the next pair of robots (if possible) or a five-minute technical break. During the final round each participant may be given a technical break only once.

## 5. Disqualification

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

Additional conditions of disqualification:

- robot lost the line - the projection of the robot is not above the line.



## 6. Scoring

N/A

## 7. Procedure for Determining the Winner

See the “Line Follower” General Contest Rules.