

# Wheeled Robots for Line Following

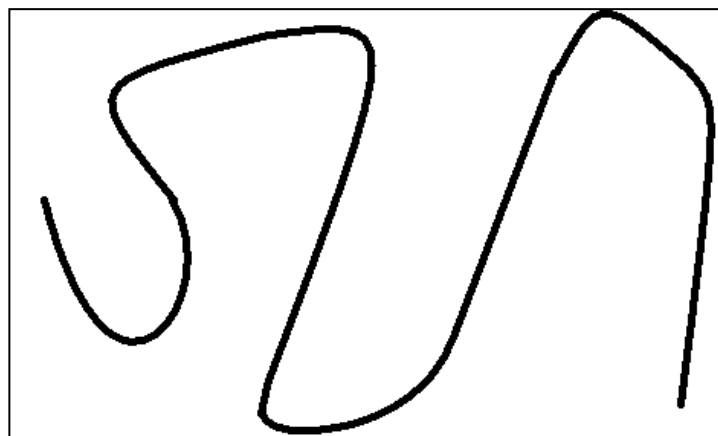
## 1. DESCRIPTION

In this competition

- The Robot must follow a line from its beginning to its end.
- Line is about 4 cm black tape on white background as seen as example in the followed figure
- The line following course is a non-crossing line, and may have arcs with different curvatures

The robot may be:

- Built from scratch by the participant.
- Or built from any combination (an hybrid robot).
- Design: Robot must be a ground wheeled vehicle.



- Length: Maximum length is 35 cm.
- Width: Maximum width is 35 cm.
- Height: Not to exceed 25 cm.

## 2. Enrolment rules

1. Any participating robot has to submit itself to the tests of homologation.
2. The tests of homologation consist in verifying that the dimensions of the robot correspond to the technical specifications.
3. Any robot not satisfying the tests of homologation is excluded from the competition.
4. The homologation will be realized the first day of the competition.

## 3. Evaluation rules

### a. COMPETITION

1. The robot that finishes the course with the quickest time will be the winner.
2. The arena of the race has White color.
3. The Robot must follow the line without any human intervention, and fully autonomous (No remote control or cable.).
4. A robot cannot cut corners to complete the course faster. This will be determined by the judge if a robot is using shortcutting tactics.
5. Losing the Line or stopping: any robot that loses the line course or stops in the line in the middle of course must reacquire the line at just before the point where it was lost. In this case a penalty will be pointed and the timer is running.

### b. EVALUATION

1. Timekeeper (judge) starts each run with the word "Go".
2. Time Clock starts when "Go" is called.
3. The clock stops when the end line is reached.
4. The winner will be decided based on a common point system.
5. Every robot receives a note by adding obtained points.
6. The winner robot is which obtains the maximal note among the participants.
7. If two teams are for equalities, a new test between both will occur to decide the final winner.

**Competition abilities:**

	<b>Points</b>
Run Time = T(mn)	$+(7-T(mn))*10$
Arrive to the end of line	+10
Each Success of a curve corner	+10
Each Success of a rectangular corner	+15
Lose the line or stop	- 5

<b>ACCURACY of the robot in following the line</b>	<b>Points</b>
Low	+0 pt
Medium	+5 pts
Hight	+10 pts