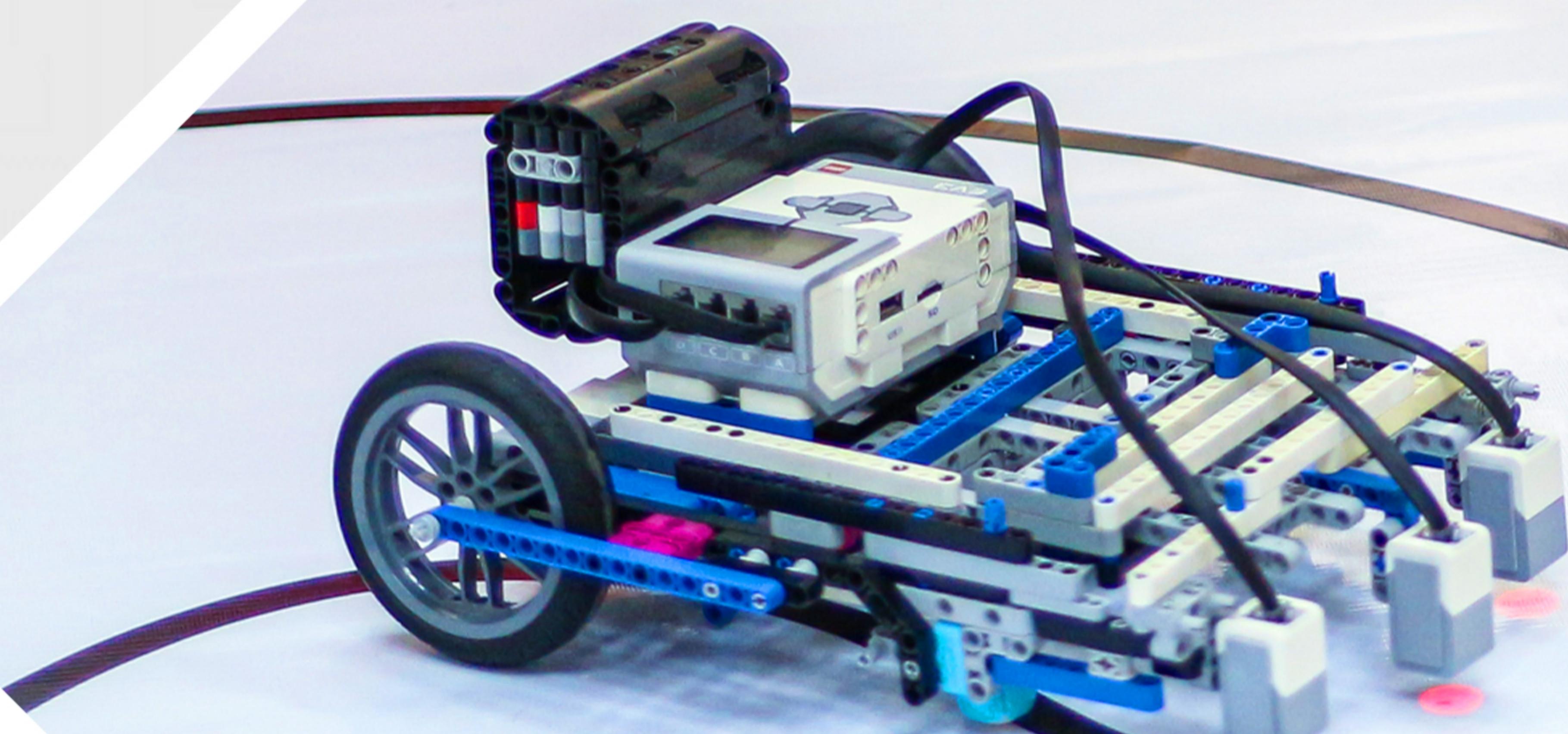




INTERNATIONAL  
ROBOT CHALLENGE



FOLLOW US

# RULES OF FOLLOW LINE

INTERNATIONAL ROBOT CHALLENGE 2024

## This Category divides into two sections :

- 1- Line Follower OPEN
- 2- Line Follower LEGO

( Open using any type of robot )  
( Using LEGO robot only )

### 1- Allowed age:

- 1- Junior (Ages from 9 to less than 14 years old) (Birth years from 2015 to 2011)
- 2- Senior (Ages from 14 to less than 18 years old) (Birth years from 2010 to 2007)
- 3- Adults (Ages from 18 to less than 24 years old) (Birth years from 2006 to 2000)

### 2- Short Description:

The objective of this category is that each robot completes the line tracking accurately from start point to the end point in the shortest period of time.

### 3- Definition of the Line follower Match:

The match is a mission for each robot to follow a certain line tracking from the starting point of the line to the ending point. The winner robot is that do this mission in the shortest period of time.

### 4- General Robot Specifications:

The robot must be fit regarding to the given class shown in the following table.

Class	Height	Width	Length	Weight
Open Robot	Unlimited	30 cm	30 cm	3Kg
Lego Robot	Unlimited	30 cm	30 cm	3Kg

#### Note:

- These dimensions are maximum but you can use robot of less dimensions.
- Robots must have passed inspection prior to compete.
- Requirements for Lego line follower robots:  
The robot must only be built out of LEGO® licensed parts.

## 5- Game Limits:

- 1-** The robot must be autonomous. No Bluetooth or other wireless control of the robot on the field is permitted.
- 2-** Maximum time of round is 3 minutes and the robot which cannot complete the line in the allowed time shall lose the round.
- 3-** Time is recorded from crossing the light gate at the beginning of the line to cross the light gate again at the end of the line.
- 4-** the judge may use a stopwatch to record the time if the light gate is not working or damaged.
- 5-** Once a robot has crossed the starting light gate, it must remain fully autonomous, If not it will be disqualified.
- 6-** The robot that gets out of the arena surface will lose the round even if it returns back again to the line.
- 7-** The line must be between the wheels of the robot to continue the game. If the outside edge of one wheel of robot exits the line, the robot will be considered out of the line.
- 8-** The robot that gets out of the line (Not the arena surface) and returns back to the line at the same point of exit or before it can continue the round unless it didn't reach the light gate.
- 9-** The robot that gets out of the line and returns back to the line at farther point of exit point will lose the round.
- 10-** There will be 10 to 15 minutes to test and calibrate the robot before matches start, and there will be one minute before each round to calibrate the robot.
- 11-** Each robot is characterized by a specific code number to identify it from others and if the robot is changed will be disqualified.

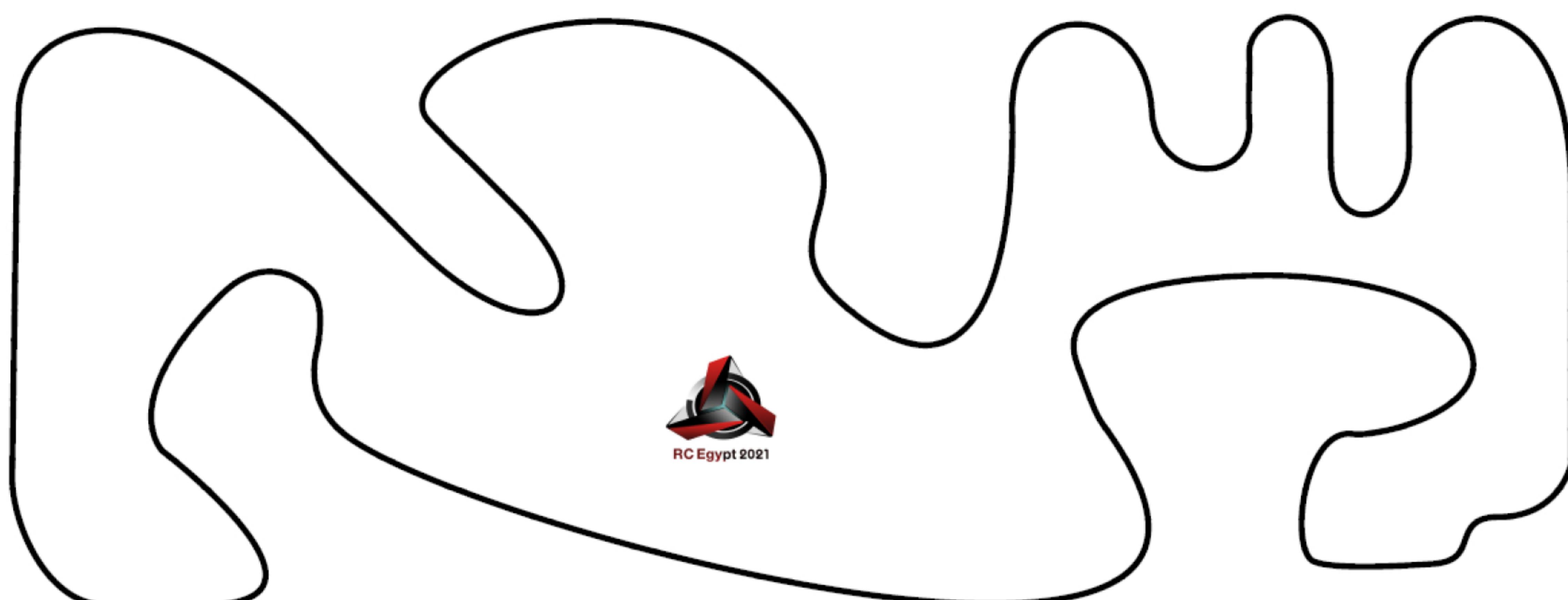
## 6- Models for past years:

To download the playground ready for printing click this link:

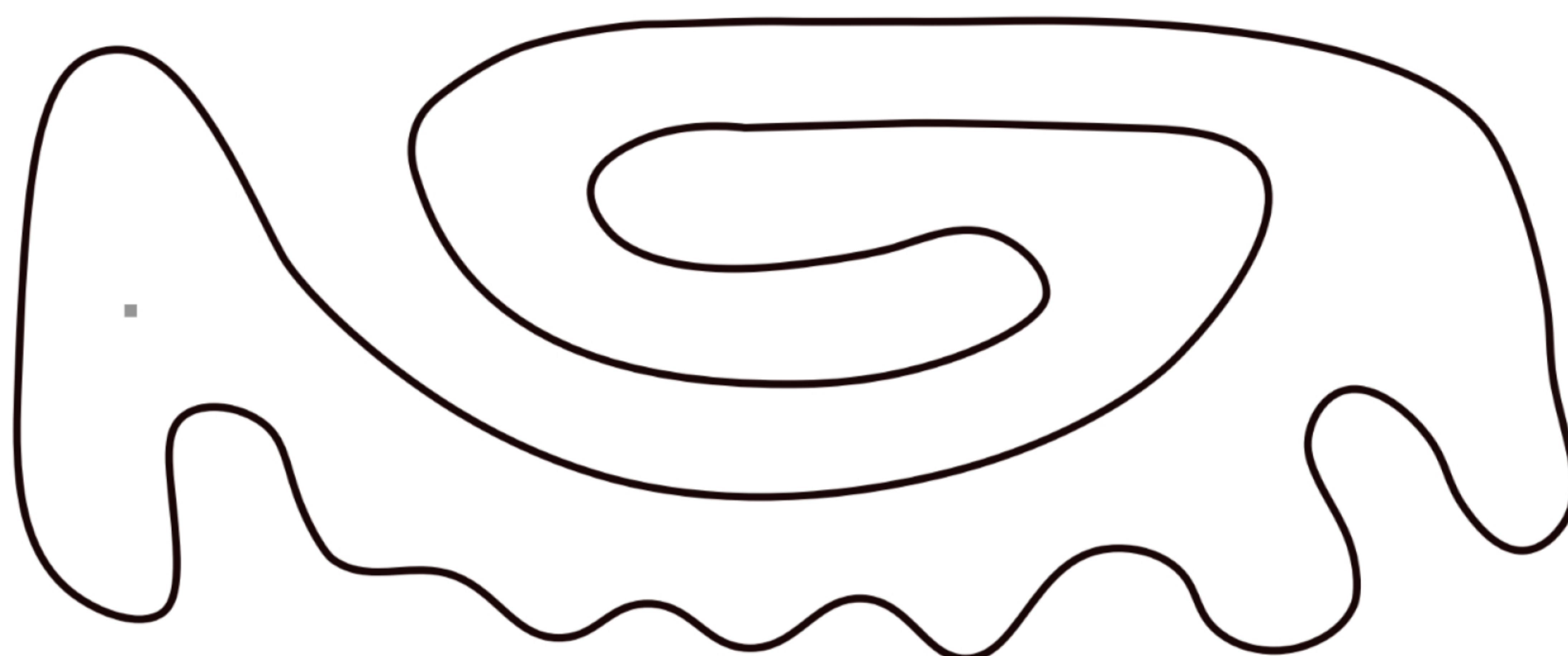
<https://drive.google.com/drive/folders/1uiEn2LanESLaTpG5jQdw4mhK89IjLCHY?usp=sharing>

Note: These Playgrounds are for training only, but the competition playground is unknown and will be a surprise on the day of the competition.

1-



2-



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## **7- Characteristics of the line:**

- 1-** The thickness of line of the game is 18 mm ( $\pm$  2 mm).
- 2-** There are no intersections in the line of game, it will be continuous.
- 3-** The closest distance between the center line and the edges of arena or between the center line and the nearest other line is not less than 15 cm.
- 4-** The minimal curve radius of any part of the game is 7.5 cm.
- 5-** Sharp angles may occur, but will not be smaller than 90°.

## **8- Declaring Objections:**

- A.** No objections shall be declared against the judges' decisions.
- B.** The lead person of a team can present objections to the Committee, before the match

is over, if there are any doubts in the exercising of these rules. If there are no Committee members present, the objection can be presented to the judge before the match is over.

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For further questions:

Technical Support: 01022758877

Good Luck