AUTONOMOUS CAR RACE COMPETITION RULES

1. Introduction

This document outlines the rules for the " Autonomous Car" robot competition.

2. Description of the Competition

One operator and four helpers can be registered for each robot (there can be a maximum of 5 team members in total). However, only one operator is allowed to guide the robot during the encounter. The aim of the competition is to simulate the immersive environment of track racing. In the competition, the robots are expected to complete the most laps on the closed track within 3 minutes. Two, three or four robots can be on the track at the same time. The competition order and position of the robots on the starting line are determined according to the fixtures determined by the organizing committee before the competitions. The robots at the starting line take action 5 seconds after the starting signal and start circling the track to move in the determined direction on the track within 3 minutes. Robots must move autonomously on the track. Participation in the competition is not possible with a remote control or wired control. The remote control can only be used to start-stop the robot. The competition is held in 3 rounds. The final score of the robots is taken as the best score within 3 rounds. In case of equality in the scores of the finalist robots, the lighter robot takes the lead. The winning robot is announced by the referees.

2.1. Fixture

The competition format is determined by the tournament organizers depending on the number of participants. Teams have 3 rounds of 3 minutes each to complete the competition. After all teams participating in the competition complete their 1st Round qualifications, the 2nd and 3rd rounds are held respectively.

2.2. Classification and Rating

Fibonacci International Robot Olympiad Autonomous Car competitions take care to classify and grade by taking into account education level and age groups. It is divided into 4 basic groups: primary school (6-10), secondary school (10-14), high school (14-18) and university (18+). The age group and education level of the team is determined by the age or education level of the oldest member of the team. It is the responsibility of the team **mentor to ensure that teams are registered in the correct age category .** If during the competition it is determined that the team is registered in the wrong age category, the robot of this team will be **disqualified from the competition** .

Note: Teams in the younger age group are allowed to compete in the older age group. The organizers reserve the right to check the age of contestants during the competition. In case of violation, the robot of the team that violated the rules will be **disqualified .**

3. Competition Track Description

The walls at the edges of the track are made of wood or similar materials with a height of 12 cm and a thickness of 5 mm. The track width is 60-80 cm. A bridge can be found on the track. The location of the starting line on the track and the starting direction are determined by the referees before the competition.

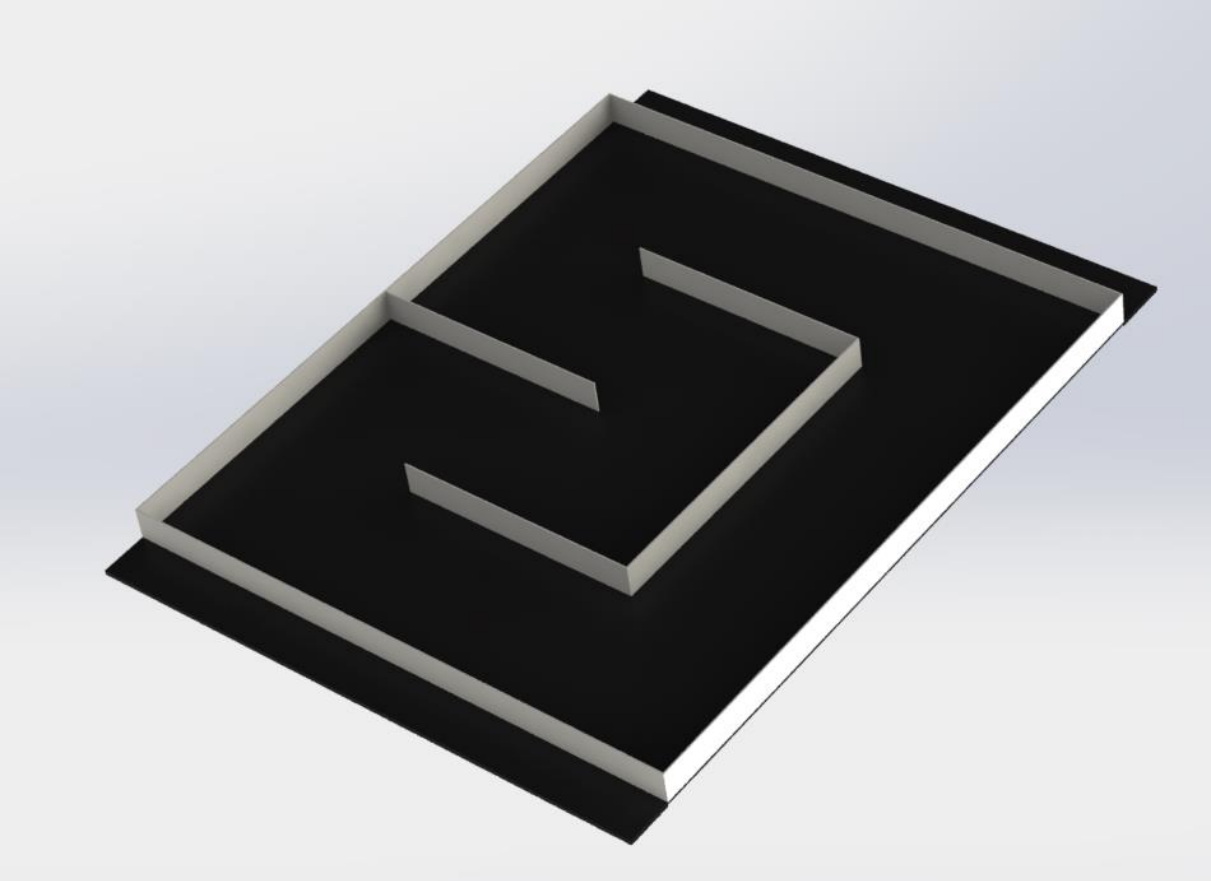

Figure 1. Sample Runway Image

3.1. Starting Line

Robots are lined up at the starting line in the order determined before the competition. The front end parts of the robots are aligned to the starting line. Robots wait 5 seconds to receive the start command and are then expected to take action. The robot that acts early – gets points.

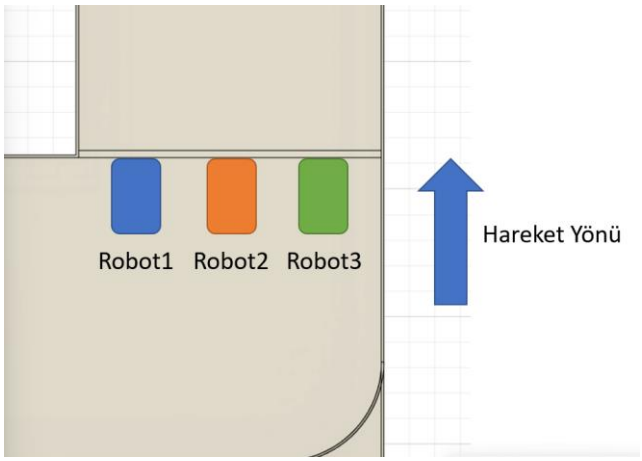

Figure 2. Alignment to the starting line

robots are standing next to each other , they cannot be aligned to hit their opponents when starting.

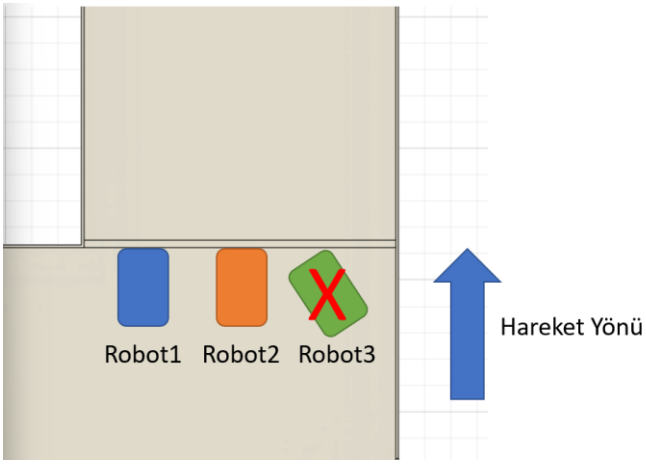

Figure 3. False start

4. Robot

4.1 Autonomous Car robots must have a maximum width, length and height of 15x20x25 cm and a maximum weight of 1000g. There is no height limit, but the width and height values of the robots at every height must comply with this rule.

Class	Weight	Length*	Width*	Height*
Autonomous Car	1000gr	20cm	15cm	25cm

Table 2: Size and Weight Limitations

4.2 Robots that will race on the track must be autonomous. It is forbidden to control them with a remote control or wired controller. If detected, the team will be disqualified.

4.3 After the competition starts, the robot is prohibited from changing its dimensions, damaging the area, posing a danger to the audience, emitting gas, liquid or dust, actively crashing into other robots, or using other robots for movement.

4.4 The robot must have a start-stop button or a remote control for start-stop (recommended). After initialization it needs to wait 5 seconds.

4.6 Robots can use sensors to detect walls and corners.

5. Match Rules

5.1 Competitors must be in the competition area, ready to compete, within 3 minutes after the names of their robots are announced. Otherwise, the competition will start and the side that does not show up will lose its right to that round.

5.2 After the competition announcement is made, all competitors deliver their robots to the referee table and when their turn comes, they take their robots, place them on the track and start the competition. The robots delivered to the referee table for the competition cannot be touched by the competitors during the competition round. It is forbidden to physically modify or reprogram the delivered robots. When the competition round is over, contestants can take their robots and update them for the next round.

5.3 The lineup of each competition round is determined according to the fixtures determined by the organizing committee before the competition.

5.4 Competitors are given 30 seconds to place their robots on the track.

5 . 5 The competition lasts 3 minutes.

5.6 Robots start the competition at the starting line and take 1 lap around the track and receive +1 point every time they pass the starting line.

5.7 Robots that leave the starting line, turn back and pass through the starting point will receive -1 point.

5.8 The competition starts with the start signal and the robots must take action 5 seconds after the start signal. Robots that start moving before 5 seconds receive -1 point.

5.9 If the robot is stuck on the track or is not moving, wait 10 seconds and it can be placed at the starting line and restarted by the competitor, the decision to do this belongs to the competitor. Robots that do this receive -1 point.

6. 6. Objections

The juries' decisions are final and not subject to subsequent review. If a solution cannot be reached with the juries, objections must be submitted immediately to the Fibonacci International Robot Olympiad Chief Referee. Complaints made after this point will not be accepted. In case of disagreement or disagreement, the final decision will be made by the Juries and/or organizers.

Note: Rude behavior will not be tolerated. A team that does not respect the decisions of the judges, referees or referees may be disqualified by the referee and/or event organizers.

6.1 Competitors cannot raise objections due to field factors after the round has started. These factors are eliminated by the referees with warnings made before the round.

6.2 The competitor may make a verbal objection to the referee for the result of a round after that round. When the next round begins, the contestant loses his right to verbal objection.

6.2.1 The contestant may present the evidence he/she has to the referee within the scope of the objection. The referee can decide according to his own logic when there is a situation outside the rules.

6.2.2 After the rounds are over, the contestant may submit a written objection to the verbal objection decision until the next round begins. This objection must be written and submitted to the chief referee in the form of a petition .

6.2.3 The chief referee makes final decisions on the objections made. Decisions cannot be appealed again.

6.3 Competitors who do not comply with the referees' warnings or disrupt the course of the competition will be disqualified.

6.4 Fibonacci robot competition reserves the right to make any changes it deems necessary in the rules.

7. Marking Robots

Robots must be checked by the referees before the tournament and their number labels (Robot Number / Team Their IDs should be labeled with). These stickers are provided by the competition organizers. The sticker cannot be placed on the robot or any other component that could interfere with the operation of the opponent's sensors. Before each new tour, robots must undergo technical control again.

8. Changes and Cancellations to the Rules

Changes and cancellations in the specifications are made by the main organizer of the competition in accordance with the regulations of the competition organizing committee.

9. Security Measures of the Competition

Class	gloves	Glasses
Autonomous Car	Not Required	Not Required

Table 3: Security Requirements

9.1 During the competitions, competitors are required to wear protective gloves and protective glasses. The mentioned protective equipment will be loaned to the competition if the competitor does not have it, but it is recommended to bring your own equipment for hygienic reasons.

9.2 Competitors will not be allowed into the competition area with any electronic device (e.g. phone, tablet, RF remote control).

9.3 It is extremely dangerous to interfere with robots during the competition, unless directed by the referee. Competitors who intervene despite this will be disqualified.

9.4 Robots with swollen batteries or leaked fluids cannot be raced. If dangerous situations such as short-circuiting or smoke are detected in a robot during the competition, the competition will be stopped and the robot will be disqualified.

10. Disclaimer

The Autonomous Car Category is dangerous due to the speeds reached by robots, and competitors must work carefully and take the necessary precautions at every stage of the competition. Despite this, Fibonacci International Robot Olympiad Organizers disclaim all liability for any material damage or injury that may occur .