



İTÜRO 2023

15. INTERNATIONAL ITU ROBOT OLYMPICS

AlgoLAB Category Rules



Istanbul Technical University Robot Olympics 2023

AlgoLAB Category Rules

Task Description:

- In this category, participants will try to solve MATLAB-based problems with the most efficient algorithm.

Success Criteria:

- Solving at least 3 problems.

Competition Requirements:

1. High school students, university students and graduates can participate in the competition.
2. Participants can compete individually or as a team.
3. If participants want to compete with a team, the team can consist of a maximum of 2 people.
4. Participants do not need to have a MATLAB (student) license. They only need to have a free MathWorks account.
5. Participants are expected to bring their computers with them on the day of the competition. One computer is sufficient for a team.
6. [MATLAB Onramp](#); It is a 2-hour course by MathWorks that aims to teach the basics of MATLAB software. Progress percentages in this course will be included in the scoring at a weight of 5% in order to ensure that the competitors have a good grasp of the basics of MATLAB.



Competition:

7. The competition will take place in the MATLAB Grader environment. To familiarize participants with the MATLAB Grader environment and prepare them for the competition format, a preparation kit will be sent to participants 1 month before the competition.
8. The aim of the participants is to solve 5 MATLAB problems of increasing difficulty.
9. Participants have a total of 4 hours to solve all problems.
10. The countdown starts from the time designated by the judges.
11. Participants should communicate with the judges to meet their special needs.

Scoring:

12. Problems are weighted from easy to difficult as given below.
 - a) MATLAB Onramp Progress Percentage: 5%
 - b) Problem-1: 5%
 - c) Problem-2: 10%
 - d) Problem-3: 20%
 - e) Problem-4: 25%
 - f) Problem-5: 35%
13. Each algorithm written for a problem will be scored according to the criteria and weighting given below:
 - a. Criteria-1: Evaluation tests prepared specifically for the problem. (65%)



b. Criteria-2: Size of the written algorithm. (35%)

c. Note: What each evaluation test checks will be shared with the participants.

14. The total score that participants receive for a problem will be calculated using a special method based on the scores they receive for each criterion and their weights. The smaller the size of the written algorithm, the higher the score received for the second criterion.

REVISIONS		
Revision	Date	Changes
1.0	01.01.2023	-
1.1	08.03.2023	- The delivery time of the preparation kits has been changed.
1.2	27.03.2023	- 6th rule is added. - Scoring percentages have been changed.