

Instructions for participants of the ISIJ Robot Tournament

1. The general rules of participation correspond to the rules of the ISIJ Cup (<http://isi-junior.com/about/rules.php>)
2. The Robot tournament is held for participants of the ISIJ Summer Cup on July 7-10 (annually) and includes two days of training and a competitive day – Robot round using the C ++ programming language and the Arduino test site (<http://isi-junior.com/tournaments/robbo.php>)
Robot round is offered to participants of the ISIJ Cup without prior preparation, so that they can apply their potential as programmers in an applied technical environment.
3. Teams of Cup ISIJ take part in the Robot Tour. Registration of participants is carried out by the ISIJ Jury, Yandex.Contest is used to access the text of the problem and the premises of the solution.
4. The trial Robot-tour is conducted online and is included in two days of training during the days of the ISIJ Cup.
5. Task of Robot round includes the Arduino libraries (see appendix) in accordance with the description of the task.
6. All solutions in the form of a program are sent using the login and password of the team captain in the YandexContest system. The Jury uses the latest working program from the team in the personal account of the team captain.
7. The program (participant's solution) is checked on the Jury's computer on the Arduino Uno / Arduino Nano board with an Atmega 328 controller (controller clock frequency is 16 MHz), taking into account the limitations: 32 KB of program memory, 2 KB of RAM. The Arduino's serial port output (Serial) is viewed by the Arduino IDE's Serial Monitor utility. It is recommended to initialize Serial at 115200 bps (Serial.begin(115200);)
8. On the team captain's computer it is also possible to provide the same Software and Hardware to pre-test the team's solution.
9. The next day after the Robot round, the jury shows the correct solution and announces the results of the teams. Awards are given to teams.
10. Robot Tournament page with agenda and useful links - (<http://isi-junior.ru/tournaments/robbo.php>). Contact with the Jury of the Robot Tournament: **Eduard O. Petrenko**, E-mail: epetrenko@mail.mipt.ru

Appendix

ISIJ 2022/ EyeduinoMovie library

The library was designed to allow low-resolution video (32*32 black and white pixels) to be handled without the need for an Eyeduino conversion board and an analog camera source. The library functions and examples are similar to the EyeduinoLight library that actually works with a video camera.

Download library <https://github.com/mipt-sport-robotics-club/EyeduinoMovie>

Download by operation Code → Download ZIP

Downloading the EyeduinoMovie-main.zip file

Next, install in accordance with the instructions for installing libraries in the Arduino IDE using the manual option (recommended) or installing from a ZIP archive, while you can rename the directory to EyeduinoMovie (without -main) so that the directory matches the name of the library.

Functionality check. We load the ELPrint.ino example into the board, start the Serial Monitor. Several ASCII pictures are displayed (black dots - with a '#' symbol, white dots - with a space), these are video frames saved in movie01.h.