"COLLECT LEGO WEDO ROBOT"
ROBOTS CONTEST ORDER

**Category:** Level 1: 5-7 years, Level 2: 8-9 years.
**Platform:** LEGO WeDo 2.0.

**Objective:** perform tasks of the three rounds, get the maximum number of points.

1. **Requirements to the robot:** The robots are assembled on the spot on the day of the competition.

2. **Rules:**
   2.1. All participants are simultaneously invited to the competition area and, at a referee’s signal, begin the task of the first round (card 1). Two team members work with one robot.
   2.2. After the completion of the first and second round (card 2), breaks are made (not less than 10 minutes).
   2.3. The first and second rounds are performed by teams individually.
   2.4. The task of the third round (card 3) involves a duel between teams.

3. **Standings**
   3.1. The tournament table contains information about the team members, scores and time of each round.

4. **Tasks of the competition:**
   4.1. Each competitor performs a task on three cards:
   4.1.1. **Card 1. Individual tour. Modeling**
   4.1.1.1. In the first round, competitors must demonstrate their spatial thinking, the ability to assemble robots according to a given image, as close as possible to the original (see Figure 1)

   ![Fig. 1. Sample of the task](image)
4.1.1.2. In the requirements for the robot, the robot model must have rotating elements. For these purposes it is necessary to use: a hub, a motor, details of a LegoWedo 2.0 constructor.

Evaluation criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Scoring</th>
<th>PENALTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy of model assembly</td>
<td>40</td>
<td>No bearing part-5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The lack of an auxiliary part-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extra detail, the item is fixed incorrectly</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color matching</td>
<td>30</td>
<td>Colors of one detail -3 points for each</td>
</tr>
<tr>
<td></td>
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<td></td>
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<tr>
<td>Mobility of the model</td>
<td>30</td>
<td>Absence of rotation - 15 for each element</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum point for the 1 tour</td>
<td>100 points</td>
<td></td>
</tr>
</tbody>
</table>

4.1.1.3. For the correctly collected robot points are awarded. The assembly time is taken into account, with the same number of points, the advantage is given to the participant whose time was the smallest.

4.1.2. Card 2. Individual tour. Programming
4.1.2.1. In the second round, competitors must demonstrate the ability to program. For the model obtained, a card is issued, according to which participants must compose the program using the given blocks.
4.1.2.2 Evaluation criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Scoring</th>
<th>EXTRA AND PENALITY POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The work of the robot corresponds to the task</td>
<td>50</td>
<td>All blocks are used +20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Used fewer units while maintaining functionality+50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The robot performs the task partially- 30</td>
</tr>
</tbody>
</table>

4.1.2.3. The time spent on programming and demonstrating the work of the robot is included in the offset of the tournament table time.
4.1.3. Card 3. Tour on the common ground.

4.1.3.1. The team must demonstrate the assembly and programming of the robot for the allotted time (no more than 30 minutes) according to the task. The task is given in accordance with the age group of participants - 4-5 years, 6-7 years, 8-9 years.

4.1.3.2. At the end of the assembly, the robots are quarantined, after which the robots compete by age group.

4.1.3.3. The software part may contain work with a distance and tilt sensor.

4.1.3.4. The participant must write a program for the task described in the card. The number of tasks with equal points can be increased by the judge on the day of the competition.

4.1.3.5. The compliance of the work of the robot with the specified task is evaluated. It takes into account the time of writing code.

4.1.3.6. Compliance with the assembly and program code assigned to the task is estimated at 100 points.

4.1.3.7. The round is won by the team that received the maximum number of points in the shortest time. The results of the tour are recorded in the overall standings of the competition.

**Determination of the winner:**
The team that scores the maximum number of points in their age group and spends the least amount of time is declared the winner.

**CONTEST ORDER FLEXIBILITY**

1. The flexibility of the rules can be manifested with changes in the number of participants in the competition, which may have a minor effect on the content of the regulations, but at the same time, its basic concepts must be observed.

2. The organizers of the competition can make changes or exceptions to the rules before the start of the competition, after which they are permanent throughout the event.

3. About changes or cancellation of the rules of the competition, participants must be notified in advance (but not later than 15 minutes) before the start of the competition.

4. The adjusted rules remain unchanged during the competition.

**LIABILITY**

1. For the operability, safety of the program, the teams and the participants of the competitions bear personal responsibility, as well as responsibility in accordance with the Legislation of the Republic of Kazakhstan in any accidents caused by the actions of team members or their programs.
2. The organizers of the competition are not liable in the event of an accident or an accident caused by actions of team members or their equipment, software.