## ENJOYAI 2024

# CLOSING CEREMONY OF SPORTS

## **Task Strategy**

#### **Objectives:**

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- 1. Learn how to allocate time for each task
- 2. Design the routes to complete tasks quickly
- 3. Test the program to find the best route





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In the previous lesson, we learned the scoring rules. Let's review it together!



#### Review

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**Scoring Rules** 

1. How can we win points in the 8 tasks?

2. How can we win points in the "Legacy of Honor" task?



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Now that we've learned about the scoring rules, let's have a look at some other information about the competition.



#### Task Strategy

1. Know the requirements on your robot

2. Learn how to allocate time appropriately

3. Design the route to quickly complete the tasks



## **Robot Requirements**

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- 1. The robot is  $30 \times 30$  cm in size. After the robot departs from the base, some parts of the robot can be unfolded.
- 2. You cannot change your controller in a single round. Each robot can have only one controller.
- 3. Actuator: You can use at most 4 motors, and you cannot use servos.
- 4. Sensors: No limit on the types and quantity of sensors
- 5. The parts of the robot must be interlocked by using snap-fit methods. You cannot use screws, rubber bands, zip ties, rivets, adhesives, and tapes to connect parts together.
- 6. Each team can use only one robot. You can not share your robot with other teams.

## **Fouls and Disqualification**

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- 1. If you start your robot by mistake for the first time, you get a warning. In this case, your robot must return to the base for a restart, and the timer is reset. If you start your robot by mistake twice, you are disqualified from the current round.
- 2. You can have multiple retries for each round. The timer continues during the retries. If you do not retry during the competition, you earn 40 bonus points. You get 30, 20, and 10 bonus points respectively for 1, 2, and 3 retries. You can have a retry if you contact structures or the robot outside the robot base.
- 3. If you or your robot breaks a task structure, no points will be awarded for this task. The referee will restore the structure after the current round ends.

### **Time Allocation**

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If you want to complete the tasks quickly, you must first analyze how hard each task is. Which tasks do you think are easier? Let's have a discussion!



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We can classify the types of tasks based on the components or operation methods used in the tasks. We can perform tasks of the same type in sequence to reuse the components in a more time-saving manner.

Try to design the route for your robot to move between task sites. Let's see whose route can save more time!

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### **Practice Competition**





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#### **Challenges accepted!**



Let's control the robot to follow the route we design in a practice competition!



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## Give it a go!

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