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RULE
BOOK

1. Overview RoboSumo is a robot combat competition where manually controlled robots compete to push their opponent out of the designated arena while defending themselves from being pushed out. The team to score the most points wins. In case of a tie, a special round will be held to determine the winner.

2. Gameplay

- Each round consists of two halves, each lasting 2 minutes (subject to change).
- Robots start from outside the arena.
- The goal is to push the opponent's robot out of the designated ring to score points.
- After each point, robots return to their starting positions to resume the match.
- A robot is considered out if more than 50% of its body is outside the playable area.
- A technical timeout of 2 minutes can be claimed by the team in case of robot damage. This can only be claimed once per round.

3. Scoring

- **1 point** will be awarded if a robot is pushed outside the ring.
- If both robots are pushed out simultaneously, each team will receive **1 point**.
- The game ends immediately if a team reaches a **7-0 lead**.
- In case of a tie, a special round will be held. The first team to score a point wins.

4. Robot Specifications

- **Dimensions:**
 - Maximum **length**: 350 mm
 - Maximum **width**: 350 mm
 - Maximum **height**: 300 mm
- **Weight:** Maximum **5 kg**
- **Control:** Wired or wireless.
 - If wired, the wire must be at least **2 meters** in length.
- **Battery:** The robot can use only batteries up to **4S LiPo**. Batteries exceeding this limit are strictly prohibited.

5. Arena Specifications

- **Arena Dimensions:** 3 meters x 3 meters
- **Playable Area:** A central ring with a **diameter of 1.5 meters**.
- The robots start from positions **outside** the ring.

6. Technical Timeout

- Each team is allowed **one technical timeout** per round, lasting a maximum of **2 minutes**. This can be claimed if the robot is damaged during the match.
- The technical timeout can only be claimed once per round.



7. Rules and Regulations

- **Timely Arrival:** Teams must arrive on time for the competition. Failure to do so may result in elimination.
- **Team Size:** A team may consist of a maximum of **4 members**.
- **Robot Handler:** Only one team member, elected as the robot handler, is allowed to control the robot during the match. All other team members must remain outside the game zone.
- **Match Format:** The competition will follow a **knock-out format**.
- **Misbehavior:** Any participant who misbehaves will be asked to leave the competition area and may risk disqualification.
- **Robot/Participant Interference:** Any deliberate interference with other robots or damage to the arena will result in disqualification.
- **Final Decision:** All decisions regarding scoring, gameplay, and participation made by the Organizing Committee are final. Teams must respect all decisions and votes made by the judges.

8. Disqualification

- Teams or robots causing deliberate damage or interference with other robots or the arena will be **disqualified**.
- Any violation of the robot specifications or game rules may result in disqualification.

9. Judges' Authority

- Judges have the final authority on all matters related to the game. Any decision made by the judges is binding and cannot be contested.

10. Special Round (Tie-Breaker)

- If the match ends in a tie, a special round will be held to determine the winner. The rules for the special round will be announced on the event day.

11. Conclusion

- The team that scores the most points by pushing their opponent out of the ring wins the match.
- In the event of an immediate **7-0 lead**, the game will conclude, and the leading team will be declared the victor.

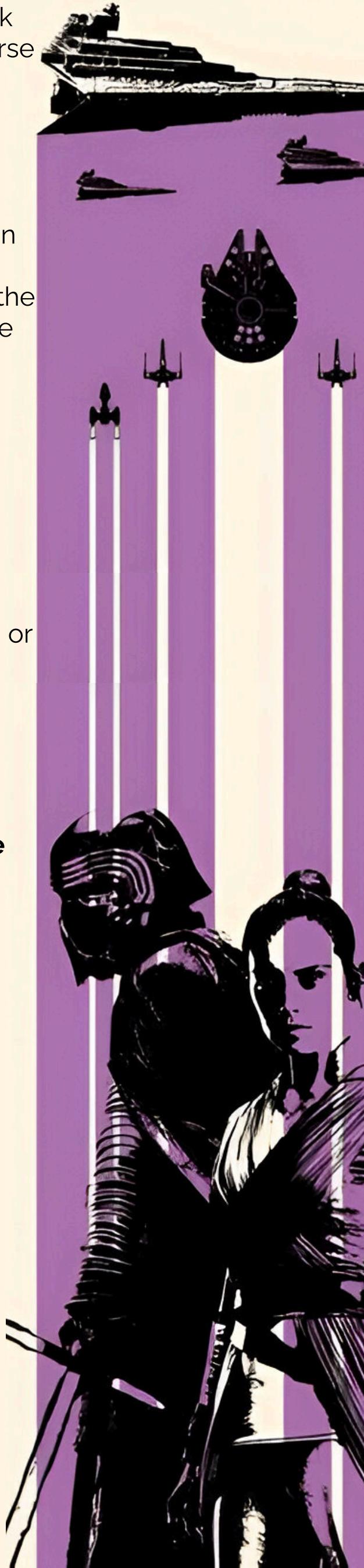
1. Overview RoboRace is a competitive event where manually controlled robots, either wired or wireless, race through a track full of turns and obstacles. The objective is to traverse the course in the minimum possible time while adhering to the specified rules. Robots will be penalized for skipping obstacles, and the timer stops when the robot crosses the finish line.

2. Gameplay

- The robot starts from the **start line** and the timer begins when the robot starts moving.
- The robot must remain **on the track** at all times. If it goes off the track, it must return to the **last checkpoint** it crossed, but the timer will not stop during this process.
- **Penalties** will be imposed for skipping any obstacles. These penalties will be added to the total time.
- The timer will stop when the robot successfully crosses the **finish line**.
- The robot that completes the track with the least amount of time (including penalties) wins.

3. Robot Specifications

- **Control:** The robot must be manually controlled (either wired or wireless).
- **Dimensions:**
 - Maximum **length**: 350 mm
 - Maximum **width**: 300 mm
 - Maximum **height**: 250 mm
- **Weight:** Maximum 5 kg
- **Construction:**
 - Robots cannot be made using **Lego parts** or **ready-made assembly kits**.
 - Robots must be powered **electrically**. The use of **IC engines** is not allowed.
- **Power Source:**
 - The robot may use a **battery** (fixed on the robot) or a **stationary power source** connected via a cord.
 - **Batteries exceeding 3s LiPo** are strictly prohibited.
 - **Spare batteries** are required. If the robot stops or is not ready due to a lack of battery, the team may be disqualified.
- **Wired Robots:**
 - The wire should be up to 2 meters long to allow full movement of the robot across the entire track.
 - The wire must **remain slack** throughout the race to avoid any interference with the robot's movement.



4. Race Track

- **Start and Finish Line:** The track will have a clear start and finish line.
- **Surface:** The track surface may have **unevenness** and will include various obstacles that may affect the robot's movement.
- **Obstacles:** The track will feature obstacles designed to slow the robot down, including but not limited to:
 - Steep ramps
 - Bridges
 - Speed breakers
 - Marble pits
 - Slippery paths
 - Rotating discs
 - Curved ramps
 - Seesaws
- The robot must navigate these obstacles while remaining on the track.

5. Rules and Regulations

- **Timely Arrival:** Teams must arrive on time for the competition. Failure to do so may result in **elimination**, with the option to rejoin upon payment of a designated fee.
- **Team Size:** A team may consist of a maximum of **4 members**.
- **Robot Handler:** Only one team member, elected as the **robot handler**, is allowed to control the robot during the race. All other team members must remain outside the game zone.
- **Misbehavior:** Any participant who misbehaves will be asked to leave the competition area and may risk disqualification.
- **Robot/Participant Interference:** Any deliberate interference with other robots or damage to the arena will result in **disqualification**.
- **Final Decision:** All decisions regarding scoring, gameplay, timing, and participation made by the Organizing Committee are **final**. Teams must respect all decisions made by the judges.

6. Penalties

- **Skipping Obstacles:** Robots that bypass or skip any obstacles will incur a penalty of 10 seconds. This penalty will be added to the robot's total time.
- **Off-Track Movement:** If the robot goes off the track, it must return to the last checkpoint crossed. The timer will continue running during this process.

7. Disqualification

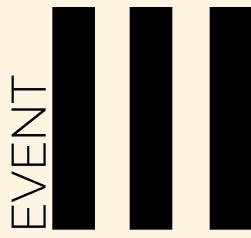
- Teams or robots that deliberately damage or interfere with other robots or the arena will be **disqualified**.
- Any robot that fails to meet the specifications or gameplay rules may be **disqualified**.

8. Judges' Authority

- Judges have the final authority on all matters related to the game. Any decision made by the judges is binding and cannot be contested.

9. Conclusion

- The robot that completes the race in the shortest time, including penalties, wins the competition.
- The event will be conducted in a **fair** and **competitive** manner, and the decisions made by the Organizing Committee are final.



Robo Soccer

EVENT

WARTECH 3.0

1. Overview RoboSoccer is a competitive robot event where manually controlled robots, either wired or wireless, compete to push a ball into the opponent's goal post while defending their own goal. The team with the most goals at the end of regulation time wins. In case of a tie, a tiebreaker round will determine the winner.

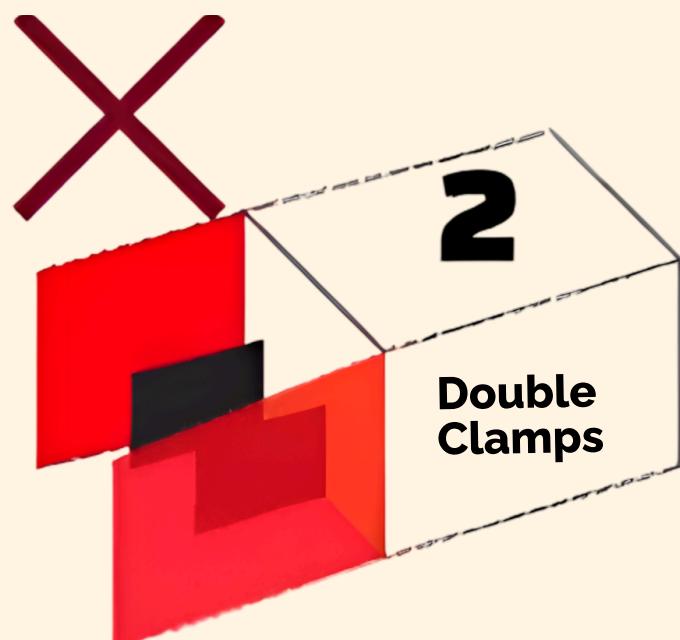
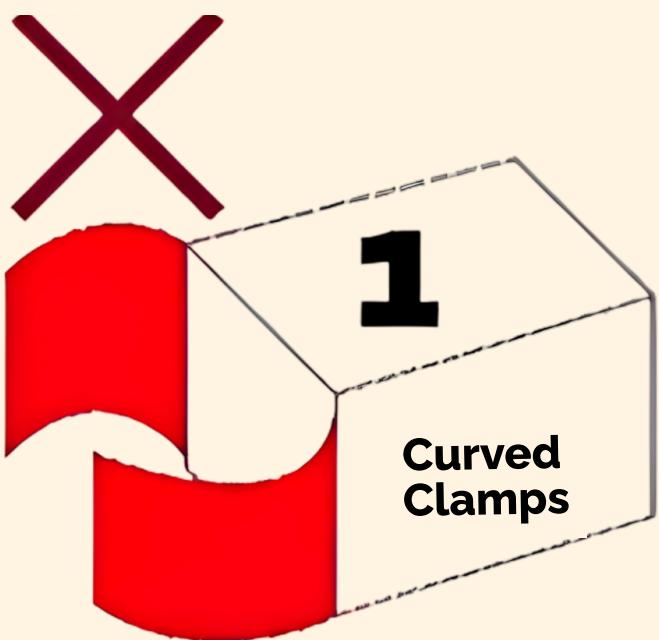
2. Gameplay

- **Round Duration:** Each match consists of 2 halves, each lasting 2 minutes (subject to change based on participant number).
- **Objective:** The goal is to score more goals than the opponent before time runs out. Robots must push the ball into the opposing team's goal while defending their own.
- **Halftime:** After the first half, teams will switch sides.
- **Tie-Breaker:** In case of a tie after full time, a 1-minute tiebreaker round will be played. The first team to score a goal wins.
- **Stationary Rule:** Robots cannot remain stationary for more than 3 seconds at point D in front of the goal post. The robot must move or take action.

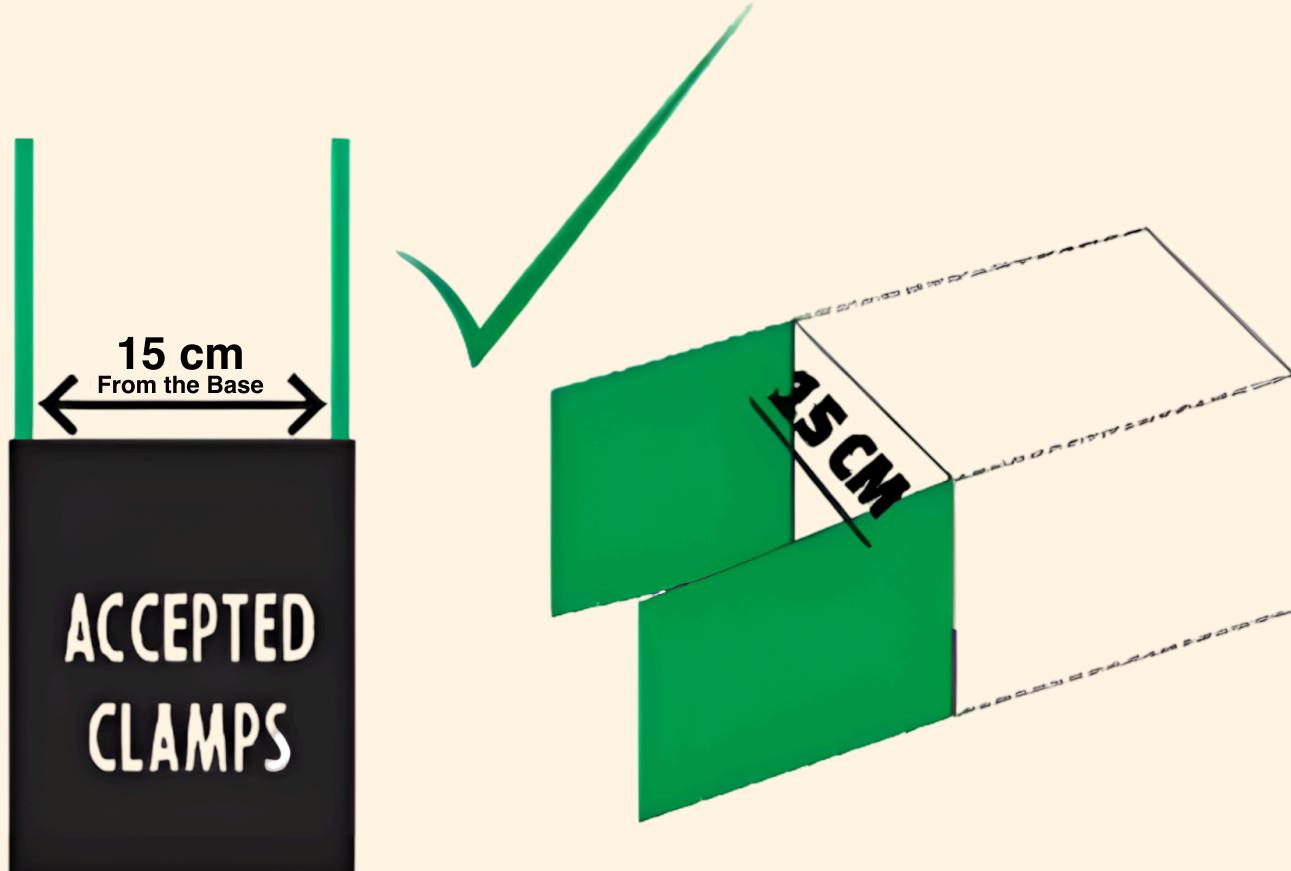
3. Robot Specifications

- **Weight:** The robot's total weight must not exceed **5 kg**.
- **Dimensions:**
 - Maximum **width**: **300 mm**
 - Maximum **length**: **300 mm**
 - Maximum **height**: **300 mm**
 - **No tolerance** is allowed in these dimensions.
- **Construction:**
 - The robot must not be made from **Lego parts** or any **ready-made assembly kits**.
 - Robots must not use any **kick mechanisms** to control the ball.
- **Clamp Specifications:**
 - The clamp at the robot's base must have a **minimum width of 15 cm** and a **minimum depth of 6 cm**.
 - The clamp should be **stationary** and cannot have any **moving parts**.
 - The angle of the clamp should be no less than **90°**.
 - The **length of the clamp** should not exceed **10 cm**.
- **Power Source:**
 - Robots can be powered by either a **fixed battery** or a **stationary power source** connected by a cord.
 - **Batteries exceeding 3s LiPo** are strictly prohibited.
 - Teams must bring **spare batteries**; failure to do so will lead to disqualification if the robot stops or fails during the match.
- **Wired Robots:**
 - The length of the wire must be **at least 2 meters** and must be **long enough** to cover the entire arena.
 - The wire must remain **slack** during the game to avoid interference with the robot's movement.





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4. Arena Specifications

- Arena Dimensions:
 - **Length: 8 feet**
 - **Width: 4 feet**
- The arena has **goal posts** at both ends, each **300 mm wide**.
- The arena is bounded on all sides, ensuring that robots remain within the playable area.

5. Rules and Regulations

- **Timely Arrival:** Teams must arrive on time. Failure to comply will result in **elimination**.
- **Team Size:** A team can have a maximum of **4 members**.
- **Robot Handler:** Only one team member, elected as the **robot handler**, is allowed to control the robot during the match. All other team members must remain outside the game zone.
- **Misbehavior:** Any participant who misbehaves may be asked to leave the competition area and may face **disqualification**.
- **Robot/Participant Interference:** Any deliberate interference with other robots or damage to the arena will result in **disqualification**.
- **Match Format:** Matches will be conducted in **knock-out format**.
- **Final Decision:** All decisions regarding scoring, gameplay, timing, and participation made by the **Organizing Committee** are **final**. Teams must fully respect these decisions, and judges' decisions are final.

6. Penalties

- **Ramming:** Robots found deliberately ramming their opponents will incur penalties:
 - **Yellow Card:** Issued for **two ramming incidents**.
 - **1 Point:** Awarded to the opponent for **three or more ramming incidents**.
- **Negative Points:** If a team fails to repair its robot within the **1-minute repair time**, the opposing team will be awarded **negative points**.

7. Disqualification

- Teams or robots that cause **deliberate interference** with other robots or damage to the arena will be **disqualified**.
- Any robot that fails to meet the **robot specifications** or violates the **gameplay rules** will be **disqualified**.

8. Judges' Authority

- Judges have the final authority on all matters related to the game. Any decision made by the judges is binding and cannot be contested.

9. Conclusion

- The team that scores the most goals within the time limit, including any tiebreaker, wins the match.
- The event is designed to be **fair** and **competitive**, and all decisions made by the **Organizing Committee** are final.

IV Robo Clench

EVENT

WARTECH 3.0

1. Overview RoboClench is a competition where teams design and build remote-controlled robots that are tasked with picking up objects and strategically placing them in specified locations throughout an obstacle course. The objective is to earn points by successfully completing the tasks within the time limit. Points are deducted for penalties, and the team with the highest score at the end of the round is declared the winner.

2. Gameplay

- **Duration:** The total time to complete the course is **6 minutes**.
- **Start Point:** The robot must begin at the **START** point.
- **Tasks:** The robot must pick up **square blocks** (100mm x 100mm x 100mm), climb ramps, and place the blocks in specified locations to complete the course.
- **Points:** Teams will earn **points** for successfully completing each task.
- **Skipping Tasks:** A team can skip **one task** or one obstacle but will incur a **penalty** for doing so. Skipping more than one task or obstacle will lead to **elimination**.
- **Incorrect Execution:** If the robot performs a task incorrectly or **topples over**, it must return to the last **checkpoint** and start the task over. The timer will not be stopped for this process.

3. Scoring

- **Points for Clearing a Task:**
 - Points are awarded for successfully completing a task.
 - **Penalty (P)** will be subtracted from the total points.
 - The formula for total points is:
Total Points = P (Points earned for completing tasks) - P(Penalties).
- **Time:** The time taken (in seconds) to complete the course will be deducted from the total points.
T (Time) = 300 - (Time taken in seconds).
- **Penalties:**
 - **Touching the Robot:** Any time the team touches the robot or uses the wire to assist the robot will result in a **5-point penalty**.
 - **Crossing the Track Limit:** If the robot crosses the boundary of the track, a **5-point penalty** will be imposed.
 - **Skipping Obstacles:** Skipping any obstacle will result in a **10-point penalty**. game to avoid interference with the robot's movement.

4. Arena Specifications

- **Track Features:** The arena will consist of various obstacles, including ramps of different slopes, vertical drops and rumbles.
- **Track Dimensions:** The **width of the track** will be **450 mm**.
- **Block Dimensions:** The square blocks the robot must handle will be **100mm x 100mm x 100mm**.



5. Robot Specifications

- **Dimensions:** The robot must not exceed **300 mm x 300 mm x 300 mm** (Length x Width x Height). Teams whose robots do not meet these dimensions will be **disqualified**.
- **Weight:** The robot's total weight must not exceed **5 kg**.
- **Control:** The robot must be manually controlled (either **wired** or **wireless**).
 - For **wired robots**, the wire must be at least **2 meters** in length to ensure the wire remains slack during the competition.
- **Robot Construction:**
 - Participants are **not allowed** to use **ready-made Lego components** or any **ready-made gripping mechanisms**.
 - However, ready-made gear assemblies are permitted.
- **Power Source:** The robot must be powered by an **electrical source** (e.g., battery). The use of **batteries exceeding 3S LiPo** is strictly prohibited.
- **Operator:** Only **one person** is allowed to control the robot during the competition. No other team members are allowed inside the arena during the match.

6. Rules and Regulations

- **Timely Arrival:** Teams must arrive on time. Failure to comply will result in **elimination**.
- **Team Size:** A team may consist of **only 4 members**.
- **Robot Handler:** Only **one team member** is allowed to handle the robot. All other team members must remain outside the game zone.
- **Arena Damage:** The robot will be disqualified if it causes **any damage** to the arena.
- **Block Handling:** Robots are not allowed to **slide** the blocks on the ground, except for **fine adjustments** in the deposit zone. Any damage to the blocks will lead to immediate **disqualification**.
- **Disputes and Decisions:** In case of any disputes or discrepancies, the **Organizers' decision** will be final and binding.
- **Organizing Committee's Authority:** All decisions regarding **scoring, gameplay, timing, and participation** made by the **Organizing Committee** are **final**. Teams must respect and adhere to all decisions.

7. Disqualification

- Any robot or team that violates the **robot specifications** or the **gameplay rules** will be **disqualified**.
- Teams that **cause damage** to the arena or fail to follow the rules regarding block handling will also face **disqualification**.

8. Judges' Authority

- Judges have the final authority on all matters related to the game. Any decision made by the judges is binding and cannot be contested.

9. Conclusion

- The team that scores the highest points, after accounting for tasks completed and penalties incurred, will be declared the **winner**.
- RoboClench encourages **creativity, strategy, and precision** while ensuring a fair and competitive environment for all participants.

1. Overview The Line Tracer competition challenges autonomous robots to follow a designated path (black or white line) on a track, with the objective of completing the course in the shortest time possible. The robot must navigate through various sections without human aid, adhering to the competition's rules while overcoming obstacles and challenges set by the track.

2. Gameplay

● **Objective:** The robot must autonomously follow the line on the track (either black or white, depending on the design) and reach the finish line as quickly as possible.

● **Track Layout:** The track will be divided into multiple sectors (e.g., A, B, C, etc.), and each sector will present different challenges such as **curves, loops, sharp turns, or intersections**.

● **Hand Touches:**

- A maximum of **2 hand touches per sector** are allowed.
- If the robot touches the track with its **hand more than twice in a sector**, the team must **skip that sector** and move directly to the next one.
- If any hand touch occurs or if the robot moves off track, the **sector must be restarted**.
- A restart **can be triggered by the referee** at any point.

● **Time Trials:**

- Each team will have **two trials per round**. The best time will be considered for the final score.
- The **first trial** will consist of a **2-minute test run**, followed by an immediate start of the actual trial.
- The **second trial** will be conducted immediately after the first, without the **2-minute test run**.

● **Restart Conditions:** The robot must restart under the following conditions:

- Failure to start after the **start button** is pressed.
- A **hand touch**.
- The robot moves off track.
- A restart is ordered by the **referee**.

● **Winner:** The team whose robot completes the track in the **shortest time**, with the least number of penalties, will be declared the **winner**.

3. Scoring and Penalties

● **Hand Touch Penalty:** A penalty of **+3 seconds** will be added to the total time for each hand touch that occurs.

● **Skipping a Sector:** If a team skips a sector, a penalty of **+5 seconds** will be added to the total time.



4. Track Specifications

- **Track Design:** The track will be made of either a **white flex sheet with black lines or a black flex sheet with white lines.**
 - The track lines will be **30mm wide**.
 - The track will consist of various angles, such as **acute, obtuse, and right angles**, along with **curves**.
 - **Discontinuities** will be added to the track to provide challenges for the robots.
- **Track Divisions:** The track will be divided into **several sectors (A, B, C, D, etc.)**, each with specific challenges and obstacles that need to be completed.
- **Start and Finish Points:**
 - The **start** and **finish** points will be clearly marked on the track.

5. Robot Specifications

- **Autonomous Operation:** The robot must be **fully autonomous** and cannot be controlled remotely during the race.
- **Dimensions:**
 - **Width:** Maximum of **280 mm**.
 - **Length:** Maximum of **280 mm**.
 - **Height:** Maximum of **200 mm**.
 - **Weight:** The robot's weight must **not exceed 3 kg**.
- **Power Source:**
 - The robot must be powered by a maximum **12V** power source, such as a **battery**.
 - **3S LiPo batteries** or higher are **strictly prohibited**.
- **Manual Start:** The robot must be started manually using a **start button**. No remote or external operation is allowed.
- **Construction:** The use of **pre-made robots, Lego parts, or similar** is **not allowed**. Robots should be **custom-built by the team**.
- **Spare Batteries:** Teams should ensure they have **spare batteries** available. Failure to have the robot ready or if the robot stops during the trial may result in **disqualification**.

6. Rules and Regulations

- **Timely Arrival:** Teams must arrive on time. Failure to comply will result in **elimination**.
- **Team Size:** A team can have a maximum of **4 members**.
- **Competition Rounds:**
 - **Round 1:** Qualifier round where each team will give **2-time trials**.
 - **Round 2:** Final round for teams that qualify after Round 1.
- **Trial Setup:**
 - In **Round 1**, each team will have a **3-minute test** run followed by the **first trial** immediately.
 - If no team completes the track **within 4 minutes**, the team that reaches the most checkpoints in the least time will qualify for Round 2.
- **Resetting the Robot:** Teams are allowed up to **8 hand touches** to reset the robot on the right track. Each hand touch will incur a **5-second penalty**.
- **Cheating or Deviation:** If the robot takes any **shortcut or deviates** from the main line, the team will be asked to place the robot back at the nearest checkpoint.
- **Disqualification:** A team will be **disqualified** if:
 - The robot moves **off track** excessively.
 - The **robot fails to restart correctly**.
 - The robot does not complete the track **within the allowed time**.
- **Judges' Authority:** The **judges' decision** on all matters concerning **gameplay, scoring and timing** is final.

7. Conclusion

The winner of the Line Tracer competition will be the robot that completes the track in the **shortest time** while incurring the least penalties. If no robot completes the track, the winner will be the team that covers the most distance in the shortest time, with the fewest hand touches.

1. Overview Successfully navigate a drone through a designed obstacle course.

Simulate real-world scenarios to mirror challenges faced by drone operators.

Test drone operators' skills in obstacle navigation to achieve mission objectives.

2. Scoring

People in the competition get points for **how fast they finish** and **how many obstacles** they go through. The person with the **most points** at the end is the **winner**.

3. Checkpoint

The challenge for the drone involves going through a path with **gates** and **obstacles**. This path is like a course and will be set up in a specific area of the college campus.

4. Drone Specification

Participants can use **any type of drone** for the event, **as long as** it meets the following requirements:

- The drone should **weigh** no more than **5kg**.
- The drone must be able to **move easily in tight spaces** and **make quick turns**.

5. Rules

- Keep your drone **in sight** at all times.
- Avoid flying your drone higher than **40 feet**.
- Do not fly your drone **over people** or **buildings**.
- Refrain from **interfering** with other participants' drones.
- Prioritize **safety** to ensure a **smooth** and **secure** event for everyone.

Participants could be **removed** from the event if they don't follow the rules or if their **drone causes harm to property** or **hurts someone**.

Note : Participants must make sure their drones are **operated safely**, and they are **accountable** for any **damage their drone may cause**.

