Sumo Robots Rules – Jedobot 2024

Category:

Category	Limit				Ring		
	Weight	Width	Lenght	Height	Diameter	Height	Width of the white border
Mini Sumo	500g	100mm	100mm	no limits	770mm	25mm	25mm
Lego Sumo	1000g	150mm	150mm				
Sumo		200mm	200mm				

Principle:

Pairs of robots compete in the ring. After the start, they try to push each other out of the ring. If one of the robots touches any part of the area outside the ring, it loses. This is true even in the case when a robot loses any of its parts and the part is then pushed out, or it touches the surface outside the ring on its own.

Robot:

The robot must be completely autonomous.

A robot may not in any case exceed the weight limit.

Dimensional limit is set at startup. After the start, unlike their weight, their size and shape may change in any way. It itself can freely rotate or flip. The robot can also split into several separate parts.

The dimensional control is performed by a profile with an internal dimension corresponding to the limit. The profile must touch the ground with its own perpendicular cross-section.

Used competitive resources of the robots must not be destructive. Strategy must not lead to damage to the opponent robot or ring.

The robot must not release any substances; it must not pollute the track or the oponent's robot.

In the Lego category, it is only allowed to use Lego parts (excluding batteries).

Competition:

It is expected for the competition to be of the type "everybody vs. everybody". In the case of more entrants, there may be groups or the competition will be of the type "eliminating".

The match consists of three duels. Each duel lasts max. three minutes. The winning robot gets 2 points, the loosing 0 points. If the match is not decided within limits, it is a draw, both get 1 point. After an agreement, it is possible to end the match early.

In the "everybody vs. everybody" type, the points are summed and the rankings are made from them. If some competitors have the same number of points, their rankings are decided using a tiebraker duel. If the tiebraker ends in a draw, competitors will share the same rank or the duel is repeated.

In case of the "elimination" system, if the match is uncertain after the three duels, the match continues up to the first win.

Disqualification:

The robot may be disqualified from the competition, from a match or from a duel.

If disqualified from the competition, it is counted as if he did not participate at all. This is only done if there is a serious violation of the rules of competition (eg. Fraud).

If disqualified from a match, the oponent will be awarded 2 points and the disqalified 0. This happens when there is a discovered violation of the rules of the competition after the match has already ended.

If disqualified from a duel, the oponent and the disqualified are awarded 1 point. This happens only when there is a discovered violation of the rules of the competition at the time of the duel or immediately after a duel has ended and only if the violation has to do with the current duel.

A robot can be disqualified by a referee only.

Duel:

The competitors are called to duel appropriately. The competitors are obliged to come to the ring within 1 minute, in which it will compete.

The robot must be placed on their part of the ring. Ie. None of its parts may extend beyond the starting line.

The robots may be freely rotated in their part of the ring. In the first duel under the first match, the competitor who chooses his robot's placement is chosen by a lot. In the other duels, the first placer is the winner of the previous round . If it was a draw, the first placer is again decided by a lot . The placement can not be later changed.

At the referee's order, both competitors start their robots. The robots may be started by diferent means than pressing a button.

A robot must be programmed so it will start its activity after five seconds, during which all people must move away from the ring beyond the active zone. The active zone is a one meter buffer space around the ring. In this zone, there are no objects, people, or anything that could affect the robot's sensors.

In the first five seconds, the robots are only allowed to make accustic or light changes, but no motion activity .

If during the countdown the competitor finds that his robot does not work, or the robot starts moving before it should, he can give a signal to the referee, who stops the countdown. The duel is immediately repeated. If it happens a second time, the competitor is disqualified from the match and loses his points to the oponent. Intentionally programming the countdown duration shorter than 5 seconds leads to disqualification from the entire competition.

The first robot movement has to be a rotation at least 90 degrees.

A referee decides the winner of the duels.

A competitor looses, if any of his opponent's robot parts (even one that during a match, for example, fell off) touches the area outside the ring.

Between individual matches, the same robot must have a at least 5 minute break for service option.

Ring:

The ring is a flat disk on which robots compete. Dimensions of the ring:

- diameter of the entire ring: 770 mm
- width of the white edge: 25 mm
- ring height: 25 mm
- the active zone from the ring: 1 m
- starting lines are parallel, 50 mm away from the center of the ring

The basic surface is matte black. Edges of the ring are white. Starting lines are drawn using a pencil or adhesive tape. The surface of the ring is homogeneous and contains no dividing lines or ridges, which could affect the movements of the robot.