LEGO MINDSTORMS

EV3 SUMOBOT

itera
MAKE A DIFFERENCE

Goal

Build and program a Lego Mindstorms EV3 SumoBot with Java and LeJOS, and push enemy SumoBots out of the dohyo.

Equipment

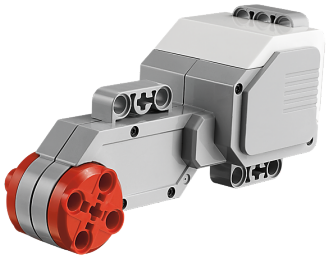
- Computer

- Cables

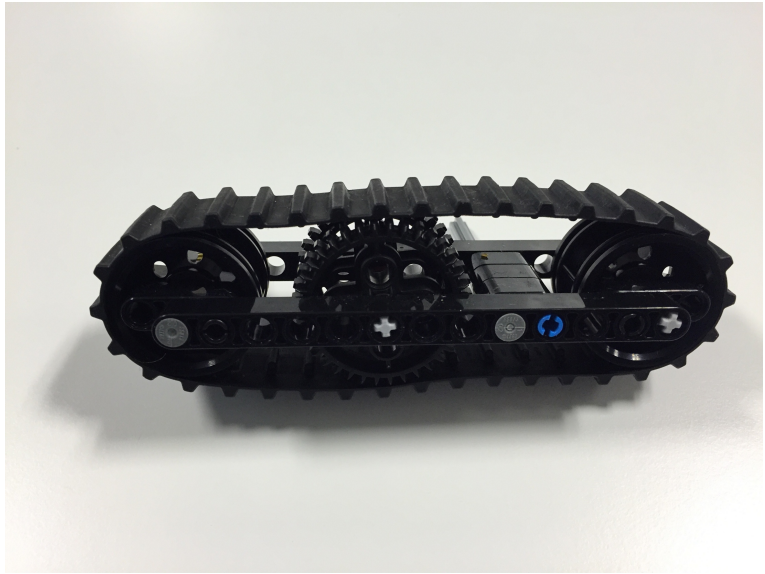
- 1 color sensor
  - close to floor

- 1 IR sensor

- 2 motors



- 2 Tank belts



  - Tank belt vs wheels: belt more friction, but slower.

- Bunch of other parts

Tournament

- 1 vs 1.
- Single elimination.
- Best of 3.
- Starts 19:30. Test runs against each other is allowed and encouraged.
  - 2 test robots are available
- At the start of each game, a die will be rolled that determines which way to orient the robots: face to face, side to side, or back to back. The players will then place their robots in the indicated positions.
- Dohyo: 120 cm diameter, 5 cm edge
- Provide a team name.

Rules

- Start bots simultaneously.
- Players cannot touch their robots or enter the ring for the remainder of the game.
- Bots have to wait 3 seconds before moving. If a robot does not wait 3 seconds it is disqualified.
- A robot is outside the ring if any part of the wheels touches the floor outside the marked ring.
- If one robot stops moving for 10 seconds, he shall be considered not having the will to fight, and the opponent shall win the game. Spinning in place is not moving!
- No remote control. Everything must be pre-programmed.
- If no robot moves outside the ring within 1 minute, the judges will decide the winner based on technical merit of the movements and operation of the robots and attitude of the players during the game.

Time Table

- Now! Start building, setup leJOS, start programming
- 18:00 Food arrives
- 18:30 Working bot, ready to test code
- 19:30 Code & build freeze, Start tournament
- 20:00 Bus to Den Gode Nabo

Tips and tricks

- Start testing code early. **Focus on getting your bot to stay in the ring first.**
- Be careful when using blocking code
- More in repo readme

Links

- Repository with installation guide, readme, code helpers and example: https://github.com/follan/HelloBrick