

Transport

Deadline: 25.4.2021

Points: 20

Material requirements: Your mobile robot, a gripper, 9 little balls app 3cm (f.e. Pompoms), a 10 cm high platform max. 20x20 cm, your linefollowing course



Topic description

A robot has even more tasks in a factory than "just" getting from one place to another. It often has to transport objects so that they can be reused elsewhere without humans having to intervene.

We wish you a lot of fun with this and the following tasks!

Task description

- **Build a gripper**

To complete this task, you will first need a gripper that you can use to pick up objects (little balls) from the ground to transport them from one place to another. Upload us a photo of your gripper.

- **Your first transport order**

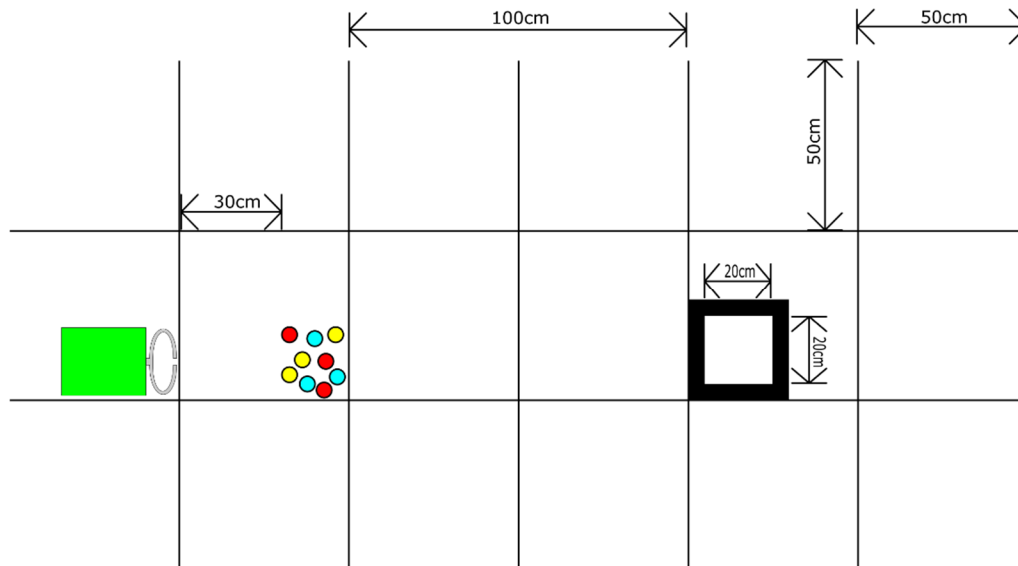
Place your robot behind the starting line and place your 9 balls 30 cm in front of your robot. One meter away, mark a square with a side length of 20 cm. You can use the illustration below to help you. Your task now is to get the robot to place the 9 balls into the prepared square. Upload us a video and your code.

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- **Factory transportation**

For this task, use the linefollowing course that you also need for the linefollowing task. At the end of the course, build a platform that is at least 10 cm high and no larger than 20x20 cm. Now place 3 balls on each cross line of your course (see illustration) (9 in total, since the last line has

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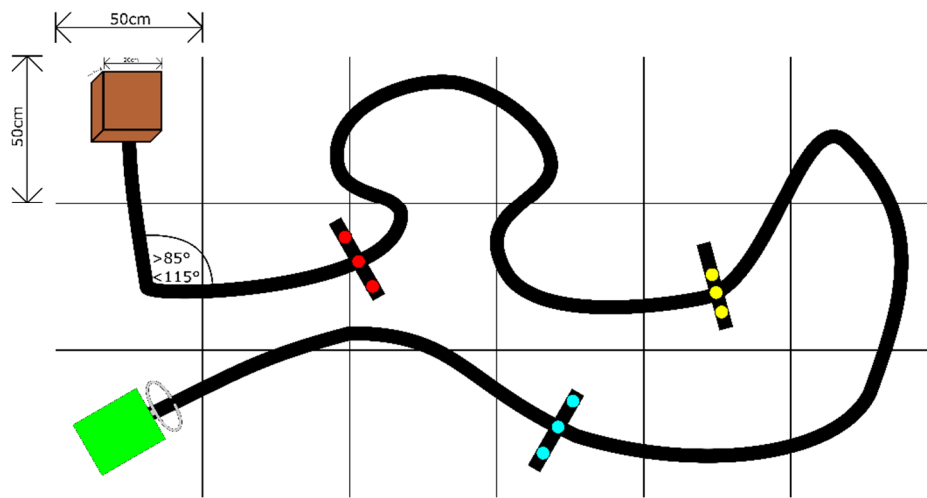
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been removed). Try to get as many balls as possible onto the platform at the end of the course. Upload us a video of this as well as your code.



Evaluation criteria

- Photo of the gripper
- Success in the first transport order (number of balls in the target square).
- Number of balls on the platform during factory transportation
- Jury evaluation: The jury evaluates the quality and creativity of the submission.