

An image of the maze is provided at the beginning of the race. This image is a png file that consists of black pixels to represent the lines on which the 3pi Robot must drive. Other pixels will be white. Black lines have a thickness of 3 pixels. Note that there can be gray pixels at the edge of the black lines created by anti-aliasing. The starting point is illustrated by a circle filled in red and the finish point by a circle filled in green.

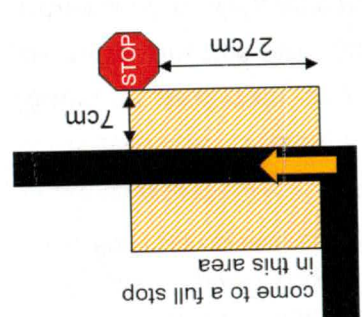
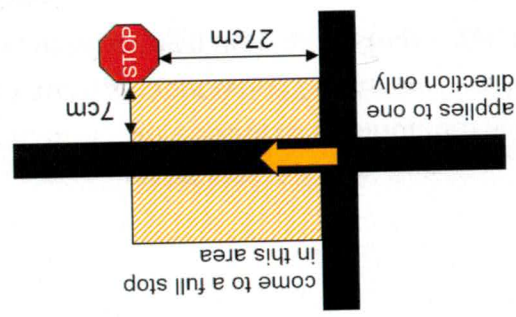
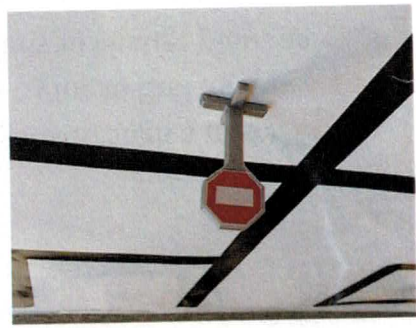
A maze consists of black lines on white background that are 2cm wide. The 3pi Robot must always be on top of a black line. The start and finish points are represented by red and green circles, respectively. Before the race starts the 3pi Robot will be placed on the starting point facing the direction of the black line leaving the start point. The race ends when the 3pi Robot comes to a stop on top of the finish point.

The maze consists of straight lines, 90 degree turns, 3-way and 4-way crossings, and dead ends. Lines connect to each other at crossings with an angle of 90, 180, or 270 degrees. Multiple paths between the start and end point may exist.

2.3. Road Signs

Road signs may occur after a crossing or a curve. You should expect two types of signs: stop signs and road blocks.

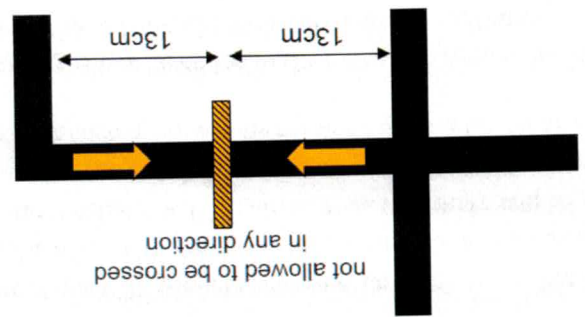
2.3.1. Stop Sign



A stop sign is located 27cm straight behind a crossing or curve and 7cm to the right of a black line. The stop sign is only relevant for one direction of travel. The 3pi Robot must come to a full stop in the range 27cm before the stop sign up to the stop sign (the front of 3pi Robot will be used as reference point). At full stop, the robot shall beep for 500ms before it resumes driving past the stop sign.

Not coming to a full stop or not beeping will result in a time penalty.

2.3.2. Road Block



A road block is located right on top of a black line at a distance of 13cm behind a crossing or curve. The 3pi Robot shall never pass a road block, nor hit the sign. Moreover, a path on which a road-block sign is placed cannot be used and an alternative route to the finish point must be identified, which is guaranteed to exist.

Hitting or passing a road block results in a disqualification for the current run.