

Line Maze Rules

Objective:

The goal of the line maze is for a robot to traverse from the start point to the end circle in the shortest amount of time. Robots that are stopped on the end circle at the end of their runs will have 10 seconds deducted from their time. Each robot is given up to four runs of at most 10 minutes total, and the best time of a single run is used to determine the results. Robots that can learn the maze on one run, and use that information to create an optimized path for additional runs, will achieve better times, than robots running random searches each run.

The Maze:

The maze will consist of black lines on a white background. The black line width will be 0.75". The contrast between the line and the background will be such that the line will be easily discernible by people under the lighting conditions of the contest.

All lines will be straight, and all lines will be parallel or perpendicular to each other. No parallel lines will be closer than 6" apart, and no intersections will be closer than 6" apart. All lines will be on a 6" grid (e.g. no lines or intersections 8" apart).

Lines can end abruptly or branch into two or three lines (T and + intersections), except for the line ending in the end circle.

The maze will be no larger than 4 feet by 6 feet. No line will be within 6" of the edge of the maze. **The maze will not have loops.**

The beginning of the maze is not specially marked, but all contestants will begin on the same spot on the maze.

The end of the maze will be marked by a black circle 4" in diameter.

The contest maze will not be revealed until all entrants are impounded.

Tolerances:

The line width will be between 0.5" and 1.0". All dimensions called 6" will be between 5" and 7". The end circle will be between 3" and 5" in diameter.