

Hug the Wall

Now the maze has **dead ends**. Champions never judge a dead end by its depth — they look in every direction. A **tight U-turn** has one way out. A **dead end** has none.

BEFORE YOU START

Your toolkit

Everything on your car. The highlighted parts are the ones this mission needs.

SPIKE Hub
the brain · has a built-in gyro
USED THIS MISSION

2 Medium motors
left + right wheels · ports A, E
USED THIS MISSION

Large motor
steers the back · port D
USED THIS MISSION

Large motor
the **turret**
: swings the distance sensor · port C
USED THIS MISSION

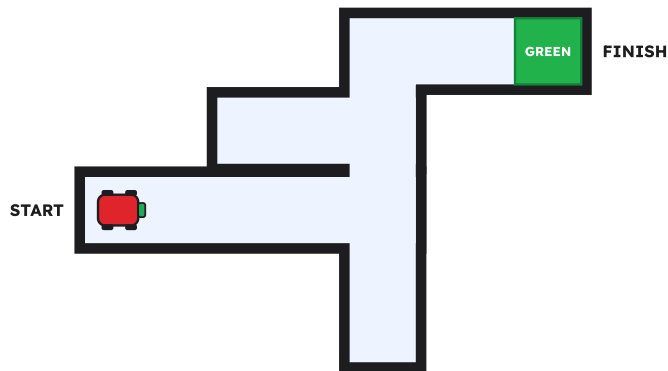
Distance sensor
port B · looks **right, left and ahead**
on the turret
USED THIS MISSION

Color sensor
underneath, pointing down · port F
USED THIS MISSION

Hub gyro
level-up: exact 90° turns
OPTIONAL LEVEL-UP

Your car: the Delivery Cart with a large-motor turret carrying the distance sensor at the front, and a color sensor underneath. How to build it →

THE MAZE



YOUR MISSION

What the car must do

- Reach the green tile with the **same stop-and-look loop**.
- A **dead end** is when right, left and ahead are **all blocked**. Teach the car to **turn around** there.
- Count the dead ends the car visits and **show the number** on the hub.

[Dead ends](#)[Right-hand rule](#)[Counting with variables](#)

Playbook cards for this mission: [Open or blocked?](#) · [Dead ends: everything blocked](#) · [The right-hand rule](#)

BUILD IT

Maze size

Along the route	Whole maze
4 → 2.4 → 2.5 lane widths	about 7.8 × 5.5 lane widths

With a 30 cm lane width the maze is about 234 × 165 cm. Lane spacing is one lane width plus a wall.

DONE WHEN

Success looks like

- The car finds the green tile through the maze.
- The hub shows 1 (the maze has one dead end on the car's path).
- Your program never asks "how deep is this turn?"

Keep going: All missions → [index.pdf](#) | Hints → [mission-5-hints.pdf](#)

The same content is in the matching .html files.