

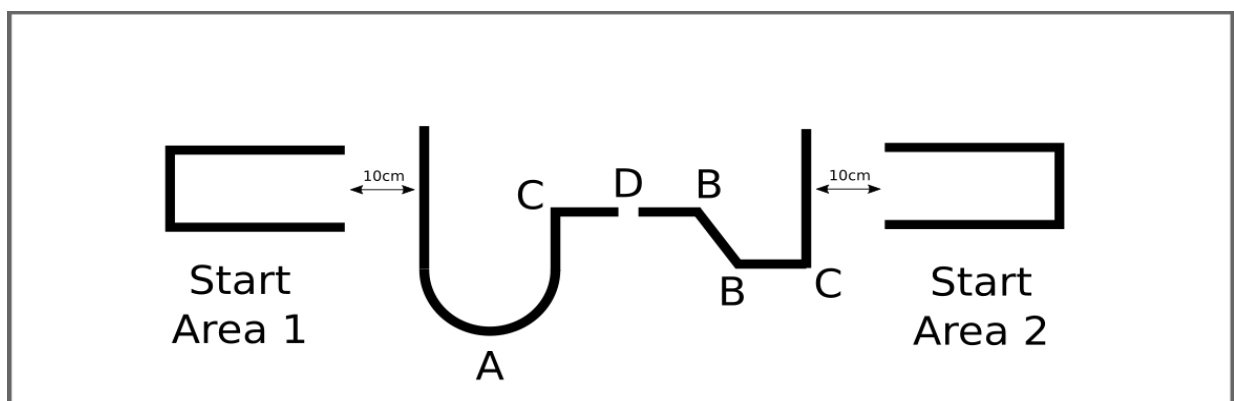
ROMI

"Your robot will be dropped into the ocean, it must autonomously survey a broken pipeline, and then return to its drop-off point to be recovered."

You must program your Romi robot to autonomously complete a line following challenge. Your robot should complete two consecutive attempts at the line following challenge; a **forward attempt** from Start Area 1, and a **return attempt** from Start Area 2.

You will be required to create your own line using the black tape provided in your kit. A way to start this challenge is to make only small parts of the map.

An example map (not to scale) is shown below:



Assessment 1 Procedure

Start Position

At either Start Area 1 or Start Area 2 your Romi must be positioned such that its wheel centres are above the back line of the start area. You can then activate your Romi to begin the line challenge. From this point onward, no human interference with the Romi is permitted, unless your Romi finishes operation or you wish to abort the attempt.

Leaving the Start Area

Once activated, your Romi should leave the start area without cross the surrounding start area markings.

Return to Start Area

When your Romi returns to the Start Area:

- It does not need to take the shortest path, it may deviate.
- Your Romi may cross over the lines.
- The Romi must stop past the end of the Start Area, such that no part of its body is outside the box marked in Blue.
- The blue box is indicated as roughly twice the length of the start area.
- Your Romi must come to a complete stop of operation, indicated with at least 4 seconds of video.