Progress Task - Problem Statement

In this task you have to program the robot and lift mechanism such that robot traverses the highlighted path shown in Figure 1. Teams have to program the robot that starts from point A, follows the line, enters the lift and reaches till point C and then comes back to point A.

❖ Read the instructions given in *Hardware Specification* section in the Rulebook.

❖ Initially the lift should be at the bottom position and robot should be placed facing the lift structure. The robot must be at the node i.e. point A.

❖ Once the robot enters the lift, the lift should move upward till it reaches the top position. Then the robot should follow path marked in red in Figure 1 till point C.

❖ The robot should then travel back to point A with the help of lift.

❖ Once robot reaches point A it must stop and glow red LED.

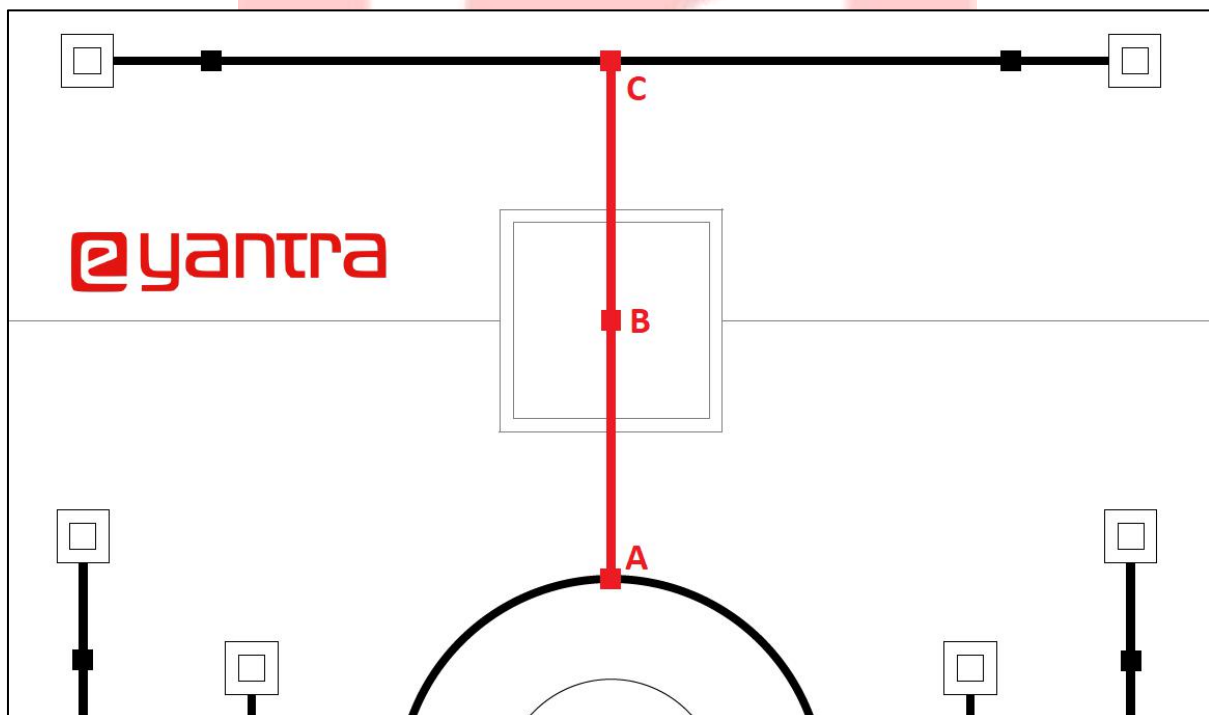We assume by now your robot and lift mechanism is ready.

Figure 1: Progress Task Arena

This task evaluates your progress in theme implementation. Suggestions / Feedback will be given based upon the design and working of your robot and lift mechanism considering the following parameters:

1. A robust and reliable robot and lift mechanism which will not distort in transportation (to Finals if selected)

2. Neat and well finished construction with no unsightly wires poking out here and there

3. Proper choice and use of materials to construct the robot and lift

4. Code written for lift mechanism.

5. Movement of robot while moving in-out of lift structure

6. Lift mechanism moving up-down with precision.

Rules for the Task:

❖ The robot should not deviate from the path at any point during the run.

❖ The robot should start and return to point A and glow red LED to end the run.

Note: We expect you to continue development of your robot and lift; make the final working implementation ready in Task 4's submission.

Submission Instructions:

Instructions for Creating Video

❖ The resolution of the video should be good enough. You have to use atleast 5 Megapixel or higher camera to shoot the video.

❖ The video should be in one of the two following formats: **'.avi'** or **'.mp4'**.

❖ Demonstration part **MUST** be a **one-shot continuous video**.

❖ The video should have demonstration part consisting of:
1. Place the robot at point A. Start the robot.
2. Working mechanism of lift structure
3. Modularity and special features of your robot and lift Mechanism
4. Stop the video once the robot reaches back to point A and glows red LED.

❖ The video should not be more than 5 minutes.

Here are a few tips for shooting good quality video:

❖ Camera should be kept stable while recording and record in a landscape view.

❖ Keep the background, any lighting, etc. constant during the video shooting.

❖ There should be no interference in terms of background noise or movement while shooting the video.

Instruction for Uploading video on YouTube:

❖ Upload video using the title **eYRC-NS#<TeamID>_Progress_Task**
  ➢ For example: If your team ID is 16 then, save it as eYRC-NS#16_Progress_Task
  ➢ While uploading the video on YouTube select the privacy setting option as **Unlisted.**
  ➢ Submit the video URL in the Progress Task tab on the portal.

On successful completion of this task, create a folder named *******_Progress_Task*** where ******** is your Team ID. For example, if the Team ID is 16, save it as, ***16_Progress_Task.zip*** and submit on the portal.

The team will submit the Atmel Studio project folder containing the code written for this task.

Note: The video should showcase the demonstration properly with different views as robot is moving.

All the Best!