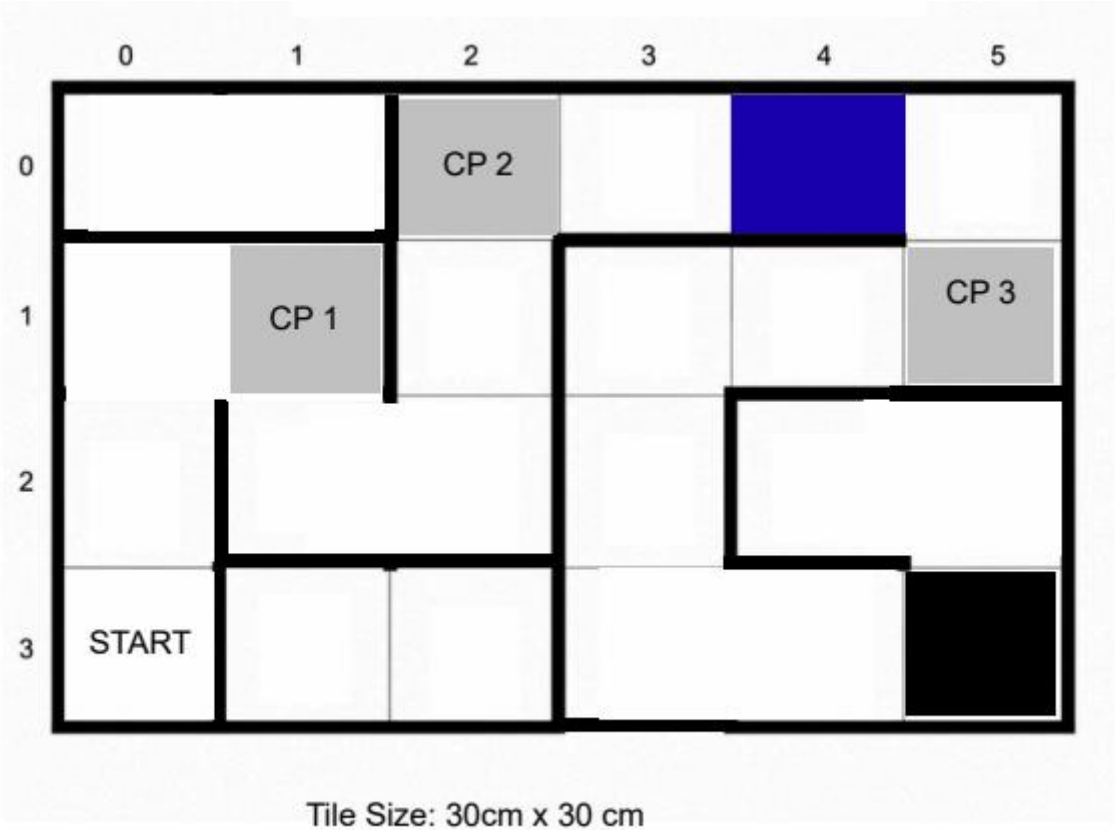
DELHI PUBLIC SCHOOL, FARIDABAD

IT FEST

Layout Robotics Rescue Maze



Tile Size: 30cm x 30 cm

CP: CheckPoints(Silver Tiles)

Event 2: Rescue Maze – Scoring Rules

1. Objective

The objective of the event is for the robot to **autonomously explore and navigate as much of the maze as possible**. The goal is **not** to find the shortest path, but to successfully cover the maximum possible area within the allotted time.

2. Maze Surface Requirements

To ensure a fair and consistent competition, all teams must prepare their maze using the following guidelines:

- All **floor tiles** must be **white**.
- All **maze walls** must also be **white**.
- The colour and finish of the maze should be as uniform as possible to minimise variations in sensor readings This ensures that every team competes under consistent lighting and surface conditions.

3. Autonomous Operation

The robot must operate **completely autonomously** throughout the run.

- No remote control or manual control is permitted.
- Robots controlled using programmable remotes, wireless controllers, or any form of external intervention are **not** considered autonomous and are not allowed.

4. Checkpoint-Based Scoring

The maze is divided into sections using **Checkpoints (CP)**.

To receive points for a section, the robot **must successfully reach the checkpoint** at the end of that section.

If the robot fails to reach a checkpoint, **no points will be awarded** for:

- The tiles successfully navigated in that section.
- Any scoring elements (Blue or Black tiles) located in that section.

5. Hazard Zone

When the robot reaches the **Hazard Zone**, it must:

- Detect the Hazard Zone autonomously.
- Emit an **audible sound** to indicate that the Hazard Zone has been identified.
- Perform a **U-turn** without entering more than **50% of the Hazard Zone tile**.

If the robot enters more than 50% of the Hazard Zone tile or fails to correctly identify the Hazard Zone, the team must restart the robot from the **last successfully reached checkpoint**.

6. Blue and Black Tile Scoring

Points for **Blue** and **Black** tiles are awarded if:

- The robot successfully reaches the checkpoint for that section.
- The robot correctly identifies the respective tile.

If the robot reaches the checkpoint but fails to identify a **Blue** tile, it will still receive points for the tiles it successfully navigated, but **no points will be awarded for the missed tile identification**.

7. Tiles That Do Not Require Identification

The robot is **not required** to identify:

- The Start Tile
- The End Tile
- Checkpoints (Silver Tiles)

These tiles are used only for navigation and scoring purposes.

8. Restarting the Robot

If the robot stops, makes an error, or fails to complete a section, it may be restarted from the **last checkpoint it successfully reached**. Teams may restart as many times as they wish, provided they remain within the official match time limit.

9. Time Limit

All navigation, restarts, and scoring attempts must be completed within the official match time limit. Once the allotted time expires, the run will end immediately.