## بسمه تعالى

بدینوسیله جهت تاکید و توجه بیشتر و آگاهی از نحوه امتیازدهی در لیگ ماز جونیور، نظر اعضاء تیم های محترم شرکت کننده را به خلاصه نکات قوانین نحوه محاسبه امتیاز دهی در راندهای مسابقه در مسابقات ایران اپن به شرح ذیل جلب می نماید:

- **2.3. Path:** Walls may be removed, added, or changed just before a scoring run starts to prevent teams from premapping the layout of the fields. Organizers will do their best not to change the maze's length or difficulty when introducing these changes.
- **2.2. Floor:** Black tiles in the field represent holes, which the robot must avoid.
- **2.2. Floor:** Silver tiles in the field represent checkpoints.
- 2.2. Floor: Blue tiles:
- a. Blue tiles in the field represent puddles or other hard-to-traverse terrains.
- b. If a robot visits a blue tile, it has to stop for 5 consequent seconds before visiting another tile.

A 'visited tile' means that more than half of the robot is inside the tile when looking from above.

**Summary:** To successfully identify a victim, the robot must stop within 15 cm of a victim and blink an indicator visible to the referee for the full 5 seconds while stationary.

## 4.6. Scoring:

- 1- To successfully identify a victim, the robot must stop within 15 cm of a victim and blink an indicator visible to the referee for the full 5 seconds while stationary.
- 2-Points are rewarded for each Successful Victim Identification in the field.
  - a. For victims located on a linear tile
    - i. For colored victims: 5 points
    - ii. For letter victims: 10 points
  - b. On floating tiles
    - i. For colored victims: 15 pointsii. For letter victims: 30 points
- 3- A robot must deploy a rescue kit entirely within 15 cm of the victim to successfully deploy a rescue kit. The deployment point is determined by the location of the rescue kit, as soon as the rescue kit stops completely on the field before the robot moves.
- 5. 10 points are awarded per successful rescue kit deployment.

The robot can score the following amount of rescue kits points:

- a. Letter [22] victims:
  - i. Harmed (H): two [23] rescue kits per victim. (Maximum points for rescue kit deployment per victim: 20 [24] points.)

ii. Stable (S): one [25] rescue kit [26] per victim. (Maximum points for rescue kit deployment per victim: 10 [27] points.) iii. Unharmed (U): zero rescue kit per victim.

- b. Coloured victims:
  - i. Red: two [28] rescue kits [29] per victim. (Maximum points for rescue kit deployment per victim: 20 [30] points.)
  - ii. Yellow: one rescue kit per victim. (Maximum points for rescue kit deployment per victim: 10 points.) iii. Green: zero rescue kits per victim.
- **2.5. Victims:** Letter victims are uppercase letters printed on or attached to the wall. They are printed in black, using a sans serif typeface such as 'Arial'. They can be rotated, and their height will be 4 cm. The letters represent the health status of the victim.
- a. Harmed victim: H
- b. Stable victim: S
- c. Unharmed victim: U
- 20 points for harmed letter victims [2]

Two [23] rescue kits per victim. (Maximum points for rescue kit deployment per victim: 20 [24] points.)

• 10 points for stable letter victims [3]

One [25] rescue kit [26] per victim. (Maximum points for rescue kit deployment per victim: 10 [27] points.

• No additional points for an unharmed letter [4] victim

Zero rescue kit per victim

- **2.5. Victims:** Colored victims are printed on or attached to a wall. Their size will be 16 cm<sup>2</sup> with no more than 6 cm in either dimension. Three colors are used: red, yellow, and green.
- 20 [5] points for a red-colored victim

Two [28] rescue kits [29] per victim. (Maximum points for rescue kit deployment per victim: 20 [30] points.

• 10 points for a yellow-colored victim

One rescue kit per victim. (Maximum points for rescue kit deployment per victim: 10 points.

No additional points for a green-colored victim

Zero rescue kits per victim.

- **2.5. Victims:** The robot can earn additional points by navigating the following obstacles:
- 10 points for going up or down a ramp
- **2.5. Victims:** Successful Up or Down Ramp Navigation. A robot is awarded 10 points for successfully navigating up or down a ramp (i.e., the robot can score a maximum of 10 points per ramp). The robot has successfully navigated through the ramp when it moves from the bottom to the top tile (or vice versa) and is entirely within the horizontal tile without toppling over

• 10 points for each visited checkpoint

**Summary:** If the robot is stuck in the maze, it can be restarted at the last visited checkpoint. A reflective floor indicates checkpoints, so the robot can save the position to a map (if it uses a map) in a non-volatile medium and restore it in case of a restart. The robot must also avoid areas with a black floors.

- **4.5. Lack of Progress:** A lack of progress occurs when:
- a. the team captain declares a lack of progress.
- b. a robot visited the black tile. A 'visited tile' means that the robot can fully enter the tile when looking from above and stay in it for more than five seconds or make a movement other than going back.
- c. a robot visits another tile without stopping for 5 consequent seconds after visiting a blue tile. See the definition of visited tile on 4.4.4.
- d. a robot damages the field. e. a team member touches the field or their robot without permission from a referee.
- **4.5.** Lack of Progress: In the event of a lack of progress, the robot must return to the last visited checkpoint (or the start tile if it never reached a checkpoint). The robot can be installed in any direction. For the definition of the visited tile (see 4.4.4).
- 5 points for passing through each tile with speed bumps

Speed bumps are fixed to the floor and have a maximum height of 2 cm.

- 5 points for navigating a set of stairs
- **2.4. Speed Bumps:** The width of the stairs is the same as the path. The maximum height is 2 cm. The length of the top of the stairs is at least 15 [10] cm
- **2.5. Victims:** Organizers will never locate victims on walls facing black/silver/blue tiles, tiles with obstacles/speedbumps/stairs, and ramps.

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