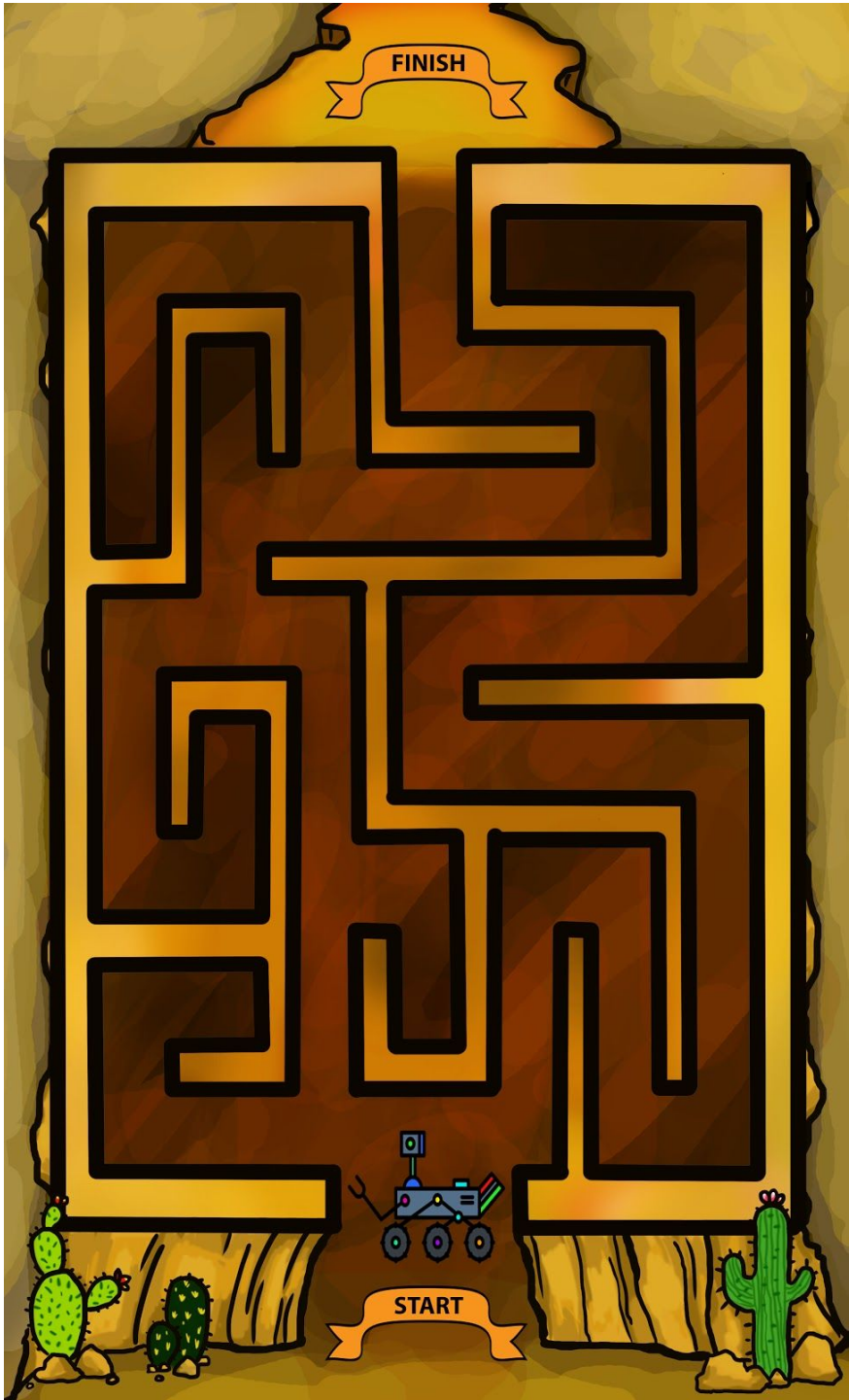


# BotQuest Tournament 2:

## The A-maze-ing Race



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## Challenge Introduction

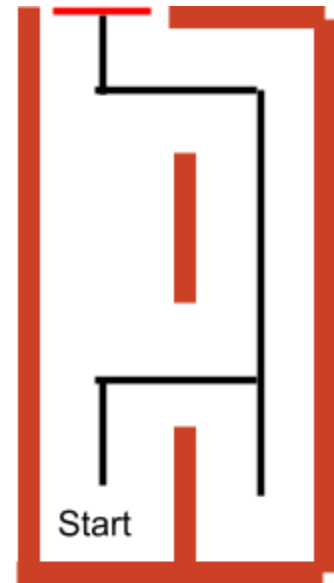
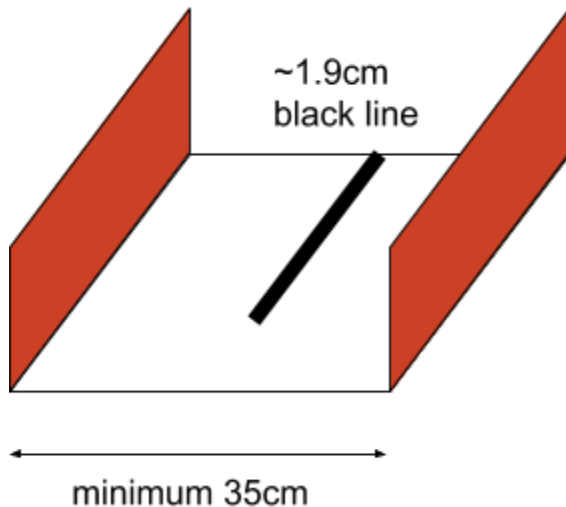
Your team has made the trek to the Grand Canyon to join the archeologists in search of rare fossils to excavate. While exploring the caves and cliffs, your robot has gotten lost! Lucky, the previous team of archeologists marked a path out of the cave system!

## General Rules

1. Teams may have up to four students aged 8-15 years old (Grade 4-8), and a mentor of high school age or older.
2. Robots entered into the Tournament must be built and programmed by the students on the team.
3. Teams may use LEGO MINDSTORMS EV3, Arduino, or Raspberry Pi to program their robot.
4. Teams may not interfere with another Team's robot or challenge attempt.
5. Teams may only attempt the challenge once.
6. No damage shall be done to the Challenge Course or associated props.
7. Rules may be updated as we get closer to the tournament date. Updates will be listed on our website and we will remind participants to look over the rules again at least several days in advance of the tournament.

## Challenge Details

- The size of your robot cannot exceed 30cm x 30cm x 30cm
- The maze consist of 1.9cm (0.75") black lines on a flat white surface (white paper with white tape) and wall at least 8 cm in height



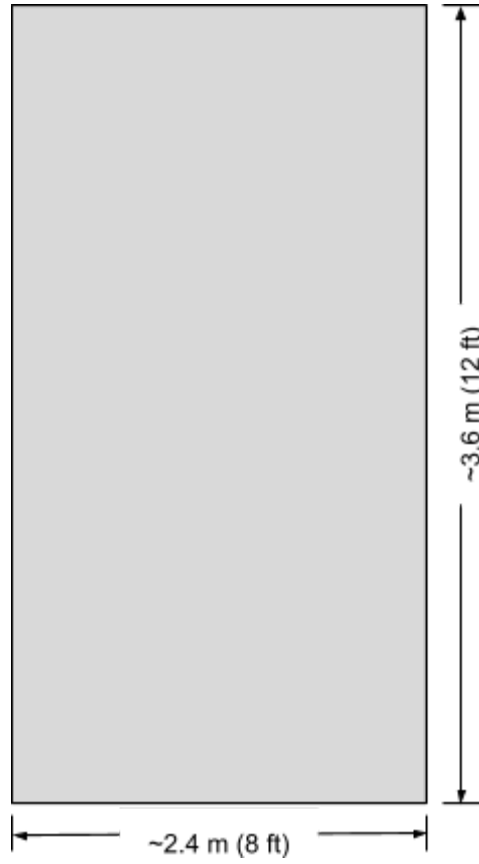
Example Maze

- The goal is to get the robot from the beginning of the Challenge Course Maze to the end as fast as possible
- The final layout of the maze will not be revealed until the day of the challenge
- The maze exit is marked with a red line
- Maze will have at least one marked path with black line from the starting point to the exit and surrounded by wall except for the exit
- Black line in the maze may have intersections, dead ends, and turns no greater than 90 degrees
- Not all possible path to exit the maze will be marked with black line
- The robot must be able to navigate from the beginning of the maze to the end autonomously without remote control or human interference

- Team may restart their robot at anytime from the beginning of the maze during their trial. Time and score will not be reset and the 20 points for “no human interaction” will not be awarded
- The maze will be divided into 9 zones, teams will gain point base on the highest zone number reached multiplied by 10 point
- Team gains 10 points for exiting the maze
- Each team has a maximum of 3 minutes to exit the maze. Not exiting the maze is equivalent to spending 3 minutes.
- Team lose 10 points for every 30 seconds spent
- Each team can gain upto 30 points from presenting their robot design and strategy in a 1 minute oral presentation.
- The team with the highest points win

## Measurements

- The Challenge Course will be ~3.6 m (12 ft) in length and ~2.4 m (8 ft) in width.



- The Maze path width will be minimum 35 cm (1.1 ft).