Junior Botball® Challenge 2

Ring Around the Can

Setup: Use Surface-A. Place a 12 oz. empty soda can in circle 6.

Skill: Learning to turn.

Goal: The robot will drive out and around the can in circle 6, and return to the starting area.

Guidelines:

1. All parts of the robot must start **BEHIND** the vertical projection of the inside of the start line.
2. Robots may drive off the mat during a run.
3. The entire robot must go around the far side of the can.
4. The can must not tip over and some part of the can must remain in the circle for the team to achieve completion.

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Junior Botball® Challenge 5

Dance Party

Setup: Use Surface-A. No game pieces required.

Skill: Motor and servo control and movement.

Goal: The robot must "dance" along with the music.

Guidelines:

1. All parts of the robot must start **BEHIND** the vertical projection of the inside of the start line.
2. Robots may drive off the mat during a run.
3. The students must provide their own music clip that plays loud enough for the judges to hear. Music clips can be played from a cell phone or the students can provide live music (singing).
4. The robot must leave the starting box before completing the dance moves and must complete all of the following moves:
    a. Must complete at least one 360 degree clockwise turn
    b. Must complete at least one 360 degree counter clockwise turn
    c. Must move forward
    d. Must move backward
    e. Must wave the servo (up and down at least once)

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Junior Botball® Challenge 6

Load 'Em Up

Setup: Use Surface-A. Place 3 empty 12 oz. soda cans in circles 2, 9, and 10.

Skill: Precision robot driving, engineering an effector to push cans.

Goal: The robot will manipulate the can in front of each garage into the garage. Put the can from circle 2 into the green garage, can 9 into the blue garage, and can 10 into the yellow garage. You will attempt all cans in a single run.

Guidelines:

1. All parts of the robot must start **BEHIND** the vertical projection of the inside of the start line.
2. Robots may drive off the mat during a run.
3. The team must declare which garages they intend to put cans in before starting a run.
4. The cans must not tip over and some part of each can must remain in the inside edge of the solid and dotted lines denoting the garage touching the surface, or that can does not count towards completion.
5. The robot may be touching cans at the end of the round.

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Junior Botball® Challenge 7

Bulldozer Mania

Setup: Use Surface-A. Place 1 empty 12 oz. soda can in each numbered circle (12 cans total).

Skill: Precision robot driving, engineering effectors (blades, claws etc.).

Goal: The robot will manipulate at least **three** upright cans behind the starting line in one run.

Guidelines:

1. All parts of the robot must start **BEHIND** the vertical projection of the inside of the start line.
2. Robots may drive off the mat during a run.
3. The robot's drive wheels must completely leave the starting box (crossing over and no longer touching the black line marking the starting box).
4. The cans must not tip over and some part of each can must touch the surface and be behind the start line (actual or virtual within the 8' enclosure), or that can does not count towards completion.
5. The robot may be touching cans at the end of the round.

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Junior Botball® Challenge 16

Proximity

Setup: Use Surface-A. One ream (500 sheets) of standard copy paper.

Skill: Students will learn how to use the rangefinder (ET) sensor to sense an object and stop before hitting the object

Goal: On two separate runs, the robot has to sense the wall (ream of paper) randomly placed on the mat and drive to it, stopping within approximately 4 1/4" (the width of a piece of paper folded in half lengthwise) of the wall without touching it.

Guidelines:

1. All parts of the robot must start **BEHIND** the vertical projection of the inside of the start line.
2. Robots may drive off the mat during a run.
3. Once the robot is in starting position, a ream of paper is placed on edge (long side down and parallel to the starting line) at either circle 4, 6, 9, or 11.
4. Once the ream of paper is set, students can push "run" on their robot.
5. Robot must come to a complete stop within approximately 4 1/4" (the width of a piece of paper folded in half lengthwise) without touching the wall with any part of the robot.

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JBC Mystery Challenge

Discover the Mystery Challenge the day of the event!