Scoring Skills

Can you collect and score rings both autonomously and using driver control?

How to Practice

1. The goal is to collect and score both rings on the medium post in two, 30-second timed runs. One run is autonomous, and one is using driver control!

   ○ In each run, your robot will have to drive to each ring, pick it up, and place it on the post. Can you score both rings in each run?
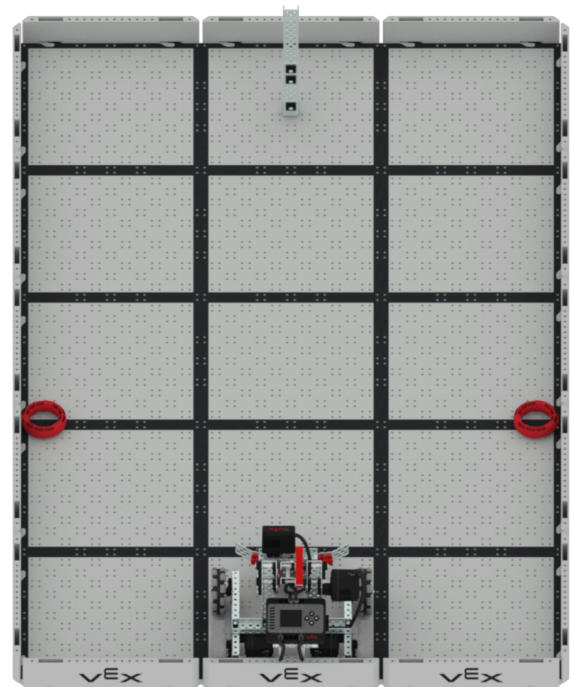
2. **Check your Field and Robot Setup:**

   ○ Set up a 3'x 5' Field with Walls and ensure that a medium post is added to the middle Tile as shown on the right.

   ○ Two rings and your Clawbot should start in the locations shown on the right.

   ○ Have a timer ready to time each run. Each run is 30 seconds.

3. **Prepare and complete the autonomous run:**

   ○ Create a plan for how the robot will move for the autonomous run and document it in your engineering notebook.

   ○ Open the Clawbot (Drivetrain 2-motor) template, and create a VEXcode EXP project(s).

   ○ Build and test your VEXcode EXP project(s).
      ■ Did the robot successfully pick up each ring and place it on the post?
      ■ How can you improve your autonomous project to score more efficiently?
      ■ Document the results of each run in your engineering notebook.

4. **Prepare and complete the driver control run:**

- ○ Develop your strategy for the driver control run and document it in your engineering notebook.

  - ■ Will you customize the Driver Control program or code the Controller for the driver control run? Create a plan for your code if necessary.
  - ■ How can you improve your driver control strategy to score more efficiently?
  - ■ Document the results of each run in your engineering notebook.

Pro Tips

- If you are customizing the controller in VEX EXP, download your driver control and autonomous projects to different slots on the Brain.

- You can use a {When timer} block in your EXP project to stop your program at 30 seconds, like the example shown here.