

Robot Barista:

Name: _____

Lesson 5

Date: _____

Barista- a person whose job involves preparing and serving different types of coffee.

Pour Over - a type of extraction where water is poured over a filter filled with ground coffee.

Extraction - the process of using water to draw flavor and color out of the coffee grounds.

Job Outlook - the likelihood that the selected occupation will be available and hiring in the future

Engage

If you are a coffee drinker, what was your last coffee experience like? If you do not drink coffee, have you ever watched someone make coffee? What was that experience like? For either answer, describe the process or processes involved.

Answers will vary. The process could be anything from making drip coffee in a Mr. Coffee to having a barista make a frappe at a coffee shop.

What are some of the motions involved in coffee making that would be easy for a robotic arm to replicate? Which motions do you believe would be more difficult for a robot arm?

Answers will vary but could include things like tamping espresso, measuring out beans, grinding with a hand grinder, etc.

Explore

While robotic arms have a key role in today's lesson, we will explore the related career of a Barista. After watching the video, find the following information about baristas:

Education needed to be a Barista	Baristas typically have no requirements for formal education to enter the occupation. They learn their skills on the job.
Skills Needed to be a Barista	Working as a barista requires technical knowledge of coffee and other coffee shop products, as well as customer service and communication skills
Duties of a Barista	Baristas make and serve hot and cold drinks, such as coffee, tea, and specialty drinks. They may also serve food like sandwiches, muffins, and bagels.
What kind of work environment does a Barista work in?	Work indoors most of the time, but may occasionally work in outdoor serving areas
Average Salary in your state	Average salaries range from \$22,000 - \$36,000 per year.
What is the job outlook for this career?	Employment of food and beverage serving and related workers is projected to grow 5 percent from 2023 to 2033

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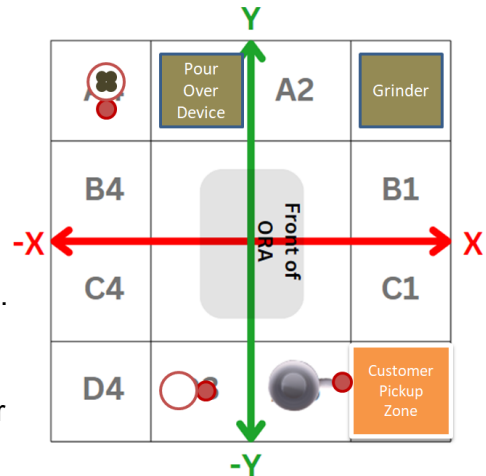
Date: _____

Elaborate

In this challenge, you will be programming ORA to act as a robot barista and simulate making a pour-over style coffee.

Task Requirements:

1. ORA must start in the initial position.
2. ORA must make a pour-over by:
 - a. Grinding the coffee beans.
 - b. Place the pour-over device on top of the coffee mug.
 - c. Place coffee grounds in the pour-over device.
 - d. Simulate pouring water over the coffee grounds in the pour-over device.
3. ORA must then move the coffee cup to the customer pickup zone
4. ORA must finish in the Initial Position.



Pseudocode	Code Blocks
Answers will vary.	Example Code Solution

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Evaluate

Please answer the following prompts.

Remember to include your **name** and **date** on this paper!

1. After learning about robotic baristas, does it change the way you think about coffee?

Answers will vary and will be very subjective.

2. After testing your code in the Elaborate section, which action/motion was most difficult to code or execute? What could you change to make that operation run smoother?

Answers will vary. Examples could include difficulty pouring the 'beans' into the hopper, picking up the pour-over device, or moving the mug to the customer pickup zone.

3. If you worked at a coffee shop, would you want to work alongside a robotic arm barista? Why or why not?

Answers will vary. Students who have a positive view of the robotic arm may think that the robotic barista will make their job more exciting since the robotic arm can deal with menial tasks while humans can perform more exciting work. Students who have negative views of robotic arms may think that their job is in jeopardy since a robotic arm may be able to do most of the work that a human worker can.