

Basic Programming Blocks:

Name: _____

Lesson 3

Date: _____

Vocabulary

Sequence- the order in which instructions occur and are processed.

ORA Blocks- code blocks in the ORA Editor that control the movement of the ORA.

Evo Blocks- code blocks in the ORA Editor that control an Evo robot.

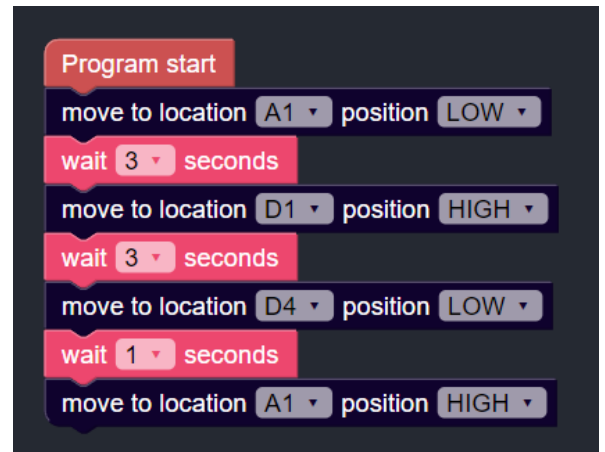
Timing Blocks- code blocks in the ORA Editor that introduce a delay in the program.

Variable- a spot on the code block where a value is changed to affect how the block is used

Engage

Look at the block code displayed by your instructor. Write the steps (in pseudocode) that the ORA will take when this code runs. Put a square next to any steps you are unsure of.

1. ORA will move to Quadrant A1 in a low position.
2. ORA will wait for 3 seconds.
3. ORA will move to Quadrant D1 in a high position.
4. ORA will wait for 3 seconds.
5. ORA will move to Quadrant D4 in a low position.
6. ORA will wait for 1 second.
7. ORA will move to Quadrant A1 in a high position.



Was your prediction correct? If you were unsure about any blocks, what action do you think those blocks coded for?

Answers may vary.

Explain

When you shuffled your cards, did you have a different code sequence than your instructor? What about other students?

The sequence is likely different than both the instructor and other students.

What effect did the order of the code blocks have on the actions of ORA and EVO?

The different order meant actions/events occurred at different times than the teacher's demonstration code.

Why is sequence important in coding?

The sequence is important because steps in a code must be performed in the right order otherwise the code will not work correctly.

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Elaborate

You have been given a task by your instructor to program a cobot at a recycling facility that physically dismantles objects for further processing. Use the space below to plan and develop your code. Use information from your ORA Code Block Cards to accomplish your task.

Code Blocks	Pseudocode
	1. Move ORA to the Initial Position 2. Move ORA to Quadrant D3 in a low position. 3. Evo counts down from 3. 4. Evo then flashes Red, White, and Blue to signal demolition. 5. ORA sweeps from D3 to D1 in a low position to knock over the pyramid. 6. ORA pauses for 5 seconds to allow for material removal. 7. ORA moves to the Initial Position.

After testing your code, was it successful? If not, what changes do you need to make to accomplish the task at hand?

Answers may vary.

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Evaluate

Please answer the following prompts.

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

1. Thinking of your code as a series of steps, why is sequence important?

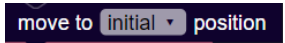
The sequence is important because steps in a code must be performed in the right order otherwise the code will not work correctly.

2. Match the code block with its purpose

B Moves the ORA to the Initial Position

A. 

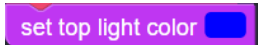
D Causes the Evo to light up blue

B. 

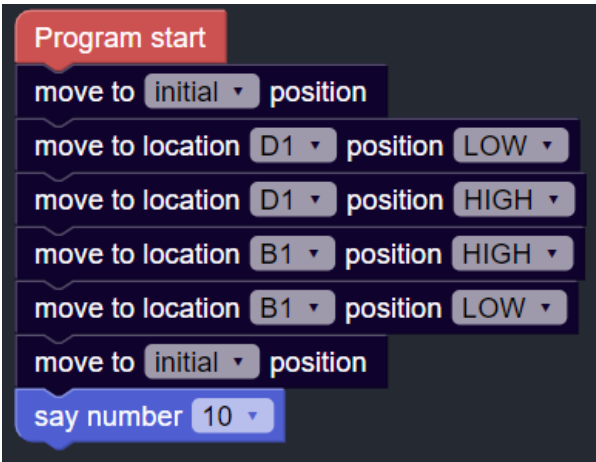
A Signals the program to start

C. 

C Causes the program to pause for 2 seconds

D. 

3. Using your six ORA Code Block Cards (some may be repeated or not used), create a simple program to move the ORA arm from Initial Position to Quadrant D1 and then to B1 **without** touching the Evo placed in Quadrant C1. After moving to B1, ORA should return to the initial position and Evo should say “10” to signal that the ORA is finished. Draw the code blocks and write the pseudocode.

Code Blocks	Pseudocode
	1. Move ORA to the Initial Position 2. Move ORA to Quadrant D1 in a low position. 3. Move ORA to Quadrant D1 in a high position. 4. Move ORA to Quadrant B1 in a high position. 5. Move ORA to Quadrant B1 in a low position. 6. ORA moves to the Initial Position. 7. Evo says “ten!”