

Ring Leader: Lesson 4 – Check Your Understanding

Learn Questions

1. Which of the following is **NOT** a way to customize driver controls in VEXcode EXP?
 - a. Using the Driver Control program on the EXP Brain
 - b. Using the Controller configuration in VEXcode EXP
 - c. Using a Tutorial video
 - d. Using a project in VEXcode EXP

2. Which of the following is **NOT** possible using only the Controller configuration in the Devices window of VEXcode EXP?
 - a. Assigning a Drivetrain to a joystick
 - b. Coding sequences of robot behaviors to the press of a button
 - c. Reversing the direction a motor moves when a button is pressed
 - d. Assigning a motor group to a set of buttons

3. Based on the code snippet shown to the right, what Controller action will make the Claw Motor and Arm Motor spin to specific positions?


```
while True:
    if controller.buttonUp.pressing():
        claw_motor.spin_to_position(70, DEGREES)
        arm_motor.spin_to_position(255, DEGREES)
```

 - a. Tilting the Controller to the left
 - b. Pressing Controller button A
 - c. Releasing Controller button Down
 - d. Pressing Controller button Up

4. Based on the Controller configuration shown to the right, what will happen when the A button on the Controller is pressed?

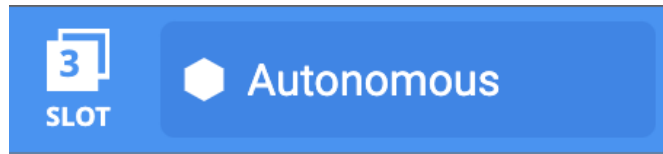
The diagram shows a VEX controller with the following assignments:

 - ClawMotor:** L1 (open), R1 (close)
 - ArmMotor:** A (down), B (up)
 - Other buttons:** L3, R3, L2, R2

 - a. The Arm Motor will move down
 - b. The Claw Motor will close
 - c. The Drivetrain will drive forward
 - d. The Arm Motor will move up

5. A student wants to be able to use the Right buttons on the Controller to make the Arm Motor raise to a specific position then open the Claw.
Which of the following could be used to customize the driver controls to accomplish this goal?
- Using the Controls window in the Driver Control program on the EXP Brain
 - Using the Controller configuration in the Devices window of VEXcode EXP
 - Building a project using an infinite **while** loop, and an **if** statement with a **pressing_controller** condition
 - That cannot be done in VEXcode EXP
6. Which of the following is TRUE about coding autonomous movements?
- Plans do not need to be specific
 - The movements of the robot are irregular
 - The plans are written using pseudocode
 - It is quicker to plan autonomous movements then driver control movements
7. Which of the following best describes coding autonomous movements?
- Using a controller and a driver control program to control the movements of a robot
 - Using a programming language to control the movements of a robot to execute certain behaviors
 - Using build instructions to construct a robot
 - Using a programming language to draw a circle on the Brain's screen.
8. What can sensors be used for on a robot when coding autonomous movements?
- To detect walls or objects (like Buckyballs)
 - To pair your controller with the Brain
 - To plan your movements using pseudocode
 - To solve the Pythagorean Theorem
9. How many project slots are available on the EXP Brain?
- 1
 - 4
 - 8
 - 10
10. What are the steps to delete all projects from the EXP Brain?
- Select "Settings" on the Brain screen, then scroll over to "Delete All" and select that option. Confirm to delete all projects by selecting the Check button
 - Select the Project Slot icon in VEXcode EXP, then select "Delete All." Confirm to delete all projects by selecting the X button
 - Select "Programs" on the Brain screen, then select "Delete All"
 - Select "Delete All" in VEXcode EXP in the Toolbar

11. What project slot is this VEXcode EXP project downloaded in?

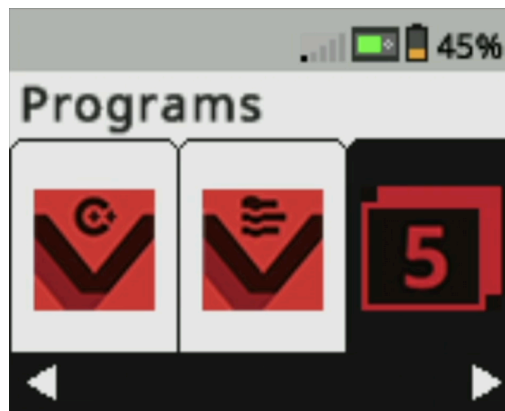


- a. 1
- b. 3
- c. 5
- d. 8

12. Which of the following is NOT a reason to use multiple project slots on the EXP Brain?

- a. You and another teammate use different custom driver control projects
- b. You need both an autonomous and driver control project for a competition
- c. The EXP Brain only has one project slot
- d. You want to test different sensors or save projects to reference later

13. Which of the project slots on the EXP Brain shown here is currently open so that a project can be downloaded WITHOUT overriding an existing project?



- a. 2
- b. 3
- c. 4
- d. 5