

Name:

Date:

CLAD Sample Exam 01

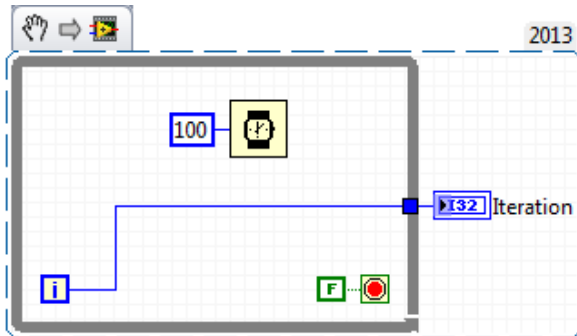
1. Why is LabVIEW a data flow programming language?
 - A. It does not have a GoTo function to control execution.
 - B. The memory location in which data is stored changes each iteration.
 - C. It uses icons instead of text to create applications.
 - D. The flow of data through nodes on the block diagram determines execution.

2. Which chart update mode should be used to show running data continuously scrolling from left to right across the chart?
 - A. Sweep Chart
 - B. Step Chart
 - C. Strip Chart
 - D. Scope Chart

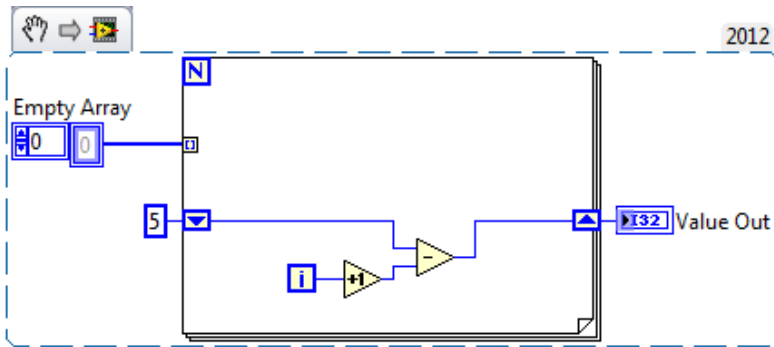
3. You set a Breakpoint in the code contained within the False case of a Case structure. Will the VI execution pause if the code in the True case of the Case structure is being executed?
 - A. Yes
 - B. No

4. If possible, a Sequence structure should be replaced with a(n):
 - A. For Loop
 - B. State Machine
 - C. Event Structure
 - D. While Loop

5. Which of the following statements is **TRUE** about the following code segment?



- A. The loop will execute once and the indicator **Iteration** will have value of one.
 - B. The loop will execute once and the indicator **Iteration** will have a value of zero.
 - C. The loop will execute infinitely and the program will have to be aborted.
 - D. The loop will not execute and the indicator Iteration will have a value of zero.
6. Which of the following does not conform to the Dataflow programming paradigm?
- A. subVIs
 - B. Local Variables
 - C. Tunnels
 - D. Shift Registers
7. For implementing state diagrams that allow future scalability, the best choice for a base structure is?
- A. Sequence Structure
 - B. Case Structure
 - C. Formula Node
 - D. Object-Oriented Structure
8. What does the Value Out indicator display after the VI executes?



- A. 0
- B. 4
- C. 5
- D. 6

9. Which of the following apply to Property Nodes? **(More than one answer may apply)**

- A. Property Nodes can be used to programmatically generate a Value Change event.
- B. Property Nodes allow attributes of front panel objects to be programmatically manipulated.
- C. Property Nodes can be used to update the values contained in a front panel object.
- D. More than one Property Node can be used for a single front panel object.

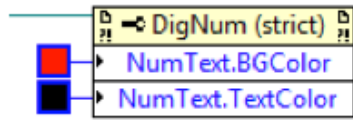
10. Which Property Node changes the text color attributes of any digital numeric control from a subVI

- A.

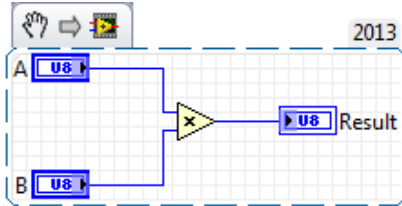
The property node is titled 'DigNum'. It has two property nodes connected to it: 'NumText.BGColor' (with a red square icon) and 'NumText.TextColor' (with a black square icon).
- B.

The property node is titled 'NumText'. It has two property nodes connected to it: 'NumText.BGColor' (with a red square icon) and 'NumText.TextColor' (with a black square icon).
- C.

The property node is titled 'Num'. It has two property nodes connected to it: 'UnitLabel.BGColor' (with a red square icon) and 'UnitLabel.TextColor' (with a black square icon).
- D.



11. If the value of **a** is 2 and **b** is 128, what value does the **Result** indicator display after the VI executes?

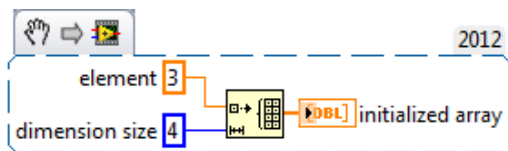


- A. -128
 - B. 0
 - C. 255
 - D. 256
12. Clicking on the _____ button allows you to bypass a node in the Block Diagram without single-stepping through the node.
- A. Step Over
 - B. Step Out
 - C. Step Through
 - D. Step Into
13. A VI has Automatic Error Handling enabled. It calls a subVI that has Automatic Error Handling disabled. The Error Out terminal of the subVI is unwired in the calling VI. The subVI returns an error to the calling VI. Will an error dialog be posed because of Automatic Error Handling?
- A. No, since the subVI has Automatic Error Handling disabled.
 - B. Yes, since the subVI has Automatic Error Handling disabled.
 - C. No, since the Error Out terminal from the subVI is not wired to the calling VI.
 - D. Yes, since the Error Out terminal from the subVI is not wired to the calling VI.

14. Which of the following statements is false?

- A. You must have an icon/connector pane to use a subVI.
- B. The color of a subVI connector pane terminal matches the data type it is connected to.
- C. A subVI connector pane defines where to wire inputs and outputs.
- D. A subVI can be edited from the functions palette.

15. What is the output of the Initialize Array function after the following code has executed?



- A. 1-D Array of {4, 4, 4}
- B. 1-D Array of {3, 3, 3, 3}
- C. 1-D Array of {4, 3}
- D. 1-D Array of {3, 4}

16. You have a front panel control on a top-level VI that you must control from within a subVI. What must you pass to the subVI?

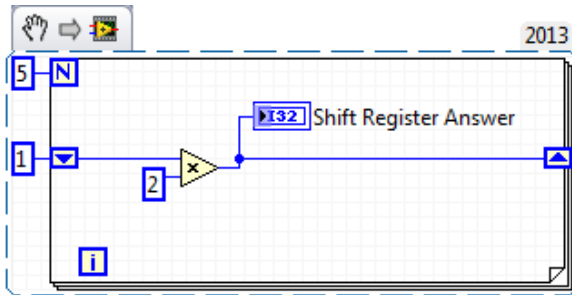
- A. The control's properties
- B. The control's methods
- C. The control's data type
- D. The control's reference

17. Which of the following cannot be used to transfer data?

- A. Notifiers
- B. Local Variables
- C. Semaphores

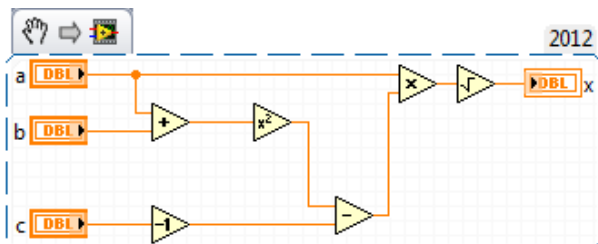
D. Queues

18. What is the value in **Shift Register Answer** after the following code has executed?







- A. 10
- B. 16
- C. 24
- D. 32

19. What equation is equivalent to the code?



- A. $x = \sqrt{a \cdot ((a+b)^2 - (c-1))}$
- B. $x = \sqrt{a \cdot ((a+b^2) - (c-1))}$
- C. $x = \sqrt{a^2 \cdot ((a+b)^2 - (c-1))}$
- D. $x = \sqrt{a \cdot ((c-1) - (a+b)^2)}$

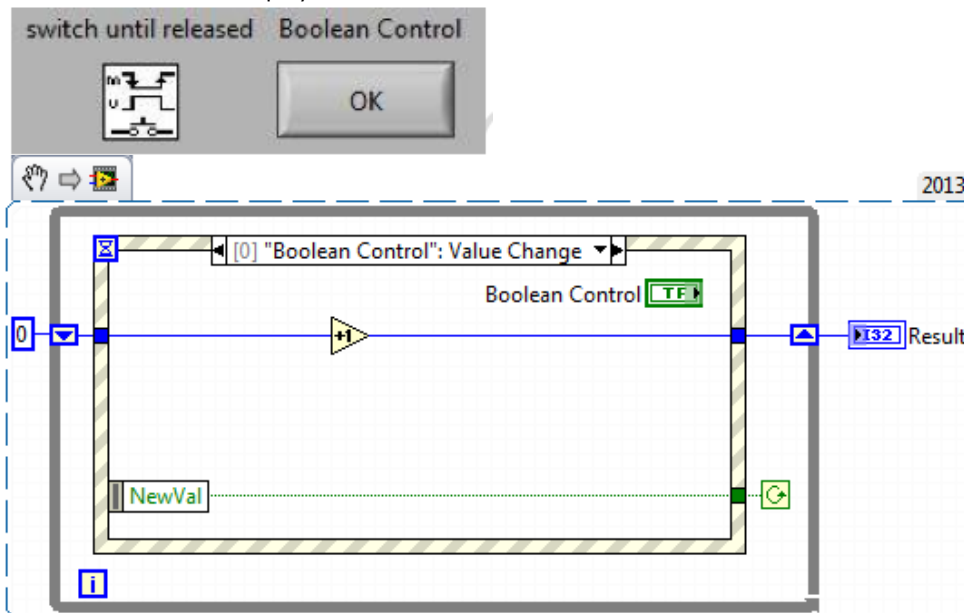
20. Which of the following terminals controls how many times a For Loop will execute?

- A. 
- B. 
- C. 
- D. 

21. An Error List shows all of the following **EXCEPT**:

- A. Errors and Warnings
- B. Items with errors.
- C. Details about the warning.
- D. Error Codes.

22. While the VI executes, the user presses and then releases **Boolean Control** with Switch Until Released mechanical action. Assuming that the starting value of **Boolean Control** is FALSE, what value does the **Result** indicator display after execution?



- A. 0
- B. 1

C. 2

D. 3

23. Which of the following will cause an event to be captured by the LabVIEW Event Structure?

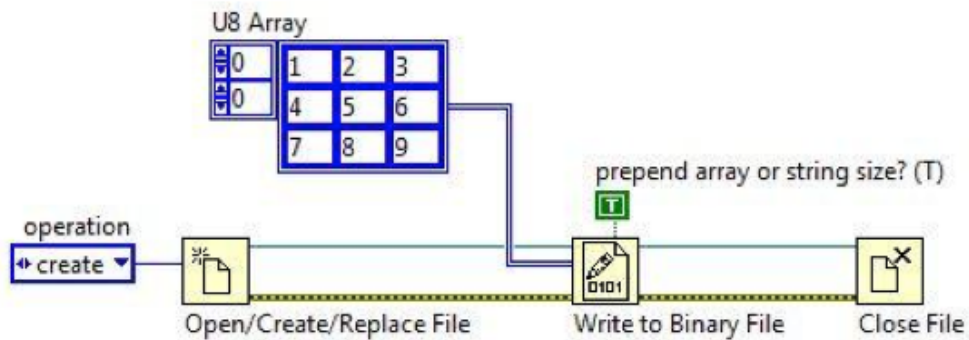
A. Changing a Front Panel control's Value property via a Property Node.

B. Changing a Front Panel control's Value via a Control Reference.

C. Changing a Front Panel control's Value via a Local Variable.

D. Changing a Front Panel control's Value via a mouse click on the control.

24. How many bytes does LabVIEW write to the file when the code executes?



A. 9 bytes

B. 11 bytes

C. 13 bytes

D. 17 bytes

25. Which data type is NOT accepted by the case selector on a case structure ?

A. Integers

B. Strings

C. Enumerated Type Values

D. Arrays

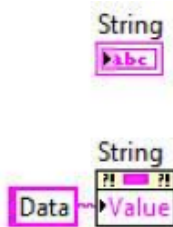
26. Auto-indexing at a loop boundary is a feature that allows: **(More than one answer may apply).**

- A. Arrays to be automatically traversed from one iteration to the next.
- B. Array functions to automatically index array elements.
- C. Arrays to be automatically accumulated at loop boundaries.
- D. Functions that use arrays to automatically index them.

27. Which variable is commonly used to eliminate race conditions by preventing simultaneous access to code or data?

- A. Global Variable
- B. Shared Variable
- C. Local Variable
- D. Functional Global Variable.

28. Does this code snippet demonstrate an appropriate use of a Property Node?



- A. Yes, because updating the value via a Property Node allows for error checking.
- B. Yes, because updating the value via a Property node uses less memory than writing to the terminal.
- C. No, because Property Nodes should only be used with more complex data types.
- D. No, because you should always wire data directly into indicators when possible.

29. Which of the following methods will create an XY Graph with two plots?

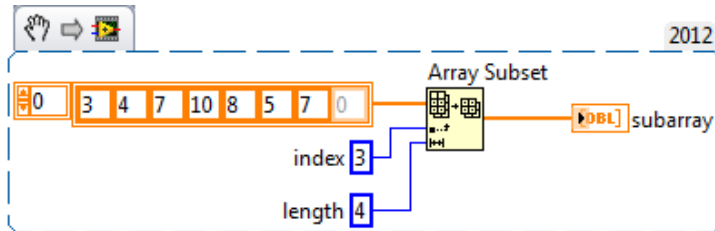
- A. Bundle the X and Y array pairs together into two clusters and then create an array of these two clusters.

- B. Create a single cluster from two arrays of X values and two arrays of Y values in an X,Y,X,Y pattern.
 - C. Create a single array of each of the X arrays and Y arrays in an X,Y,X,Y pattern.
 - D. Bundle the X and Y array pairs together into two clusters and create a cluster of these two clusters.
30. How do you document a VI so that the description appears in the Show Context Help popup window?
- A. Type in the Show Context help window.
 - B. Use the VI Properties Documentation window.
 - C. Edit the LabVIEW Help files.
 - D. Create a free label on the front panel.
31. The **Wait Until Next ms Multiple** function:
- A. Begins timing after the code in the loop has completed and expires when the multiple of the (user) input time expires.
 - B. Begins timing after the code in the loop has completed and expires when the user input time completes.
 - C. Begins timing at program start and waits until the code in the loop has completed.
 - D. Begins timing at program start and completes upon a multiple of the PC timer.
32. The Wait function can be added to While Loops...
- A. To allocate memory used by the CPU.
 - B. To free up available memory.
 - C. To reserve which processor the code is running on.
 - D. To allow the processor time to complete other tasks.
33. Which of the following statements is **NOT** valid?
- A. You can make an Array of Arrays.
 - B. You can make a Cluster of Clusters.

C. You can make an Array of Clusters.

D. You can make a Cluster of Arrays.

34. What is the result in **subarray** after the following code has executed?



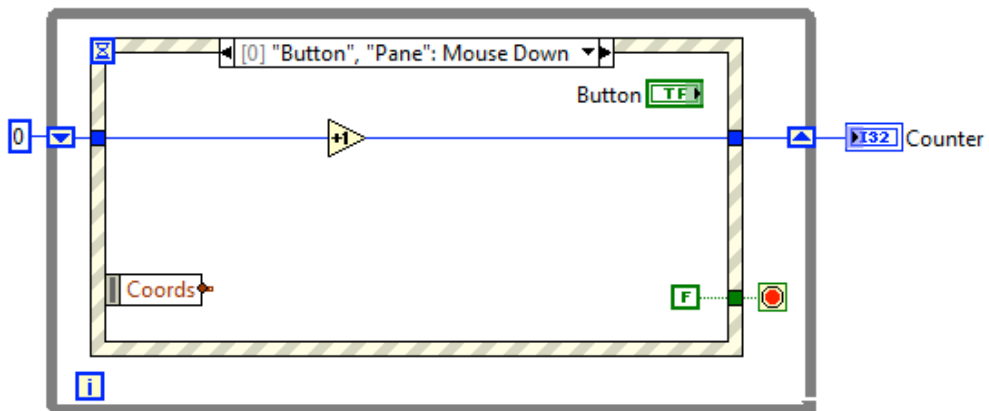
A. 1-D Array of {7, 10, 8, 5}

B. 1-D Array of {10, 8, 5, 7}

C. 1-D Array of {10, 8, 5}

D. 1-D Array of {8, 5, 7}

35. When the user clicks the **Button** control, how many times is the **Increment** function called?



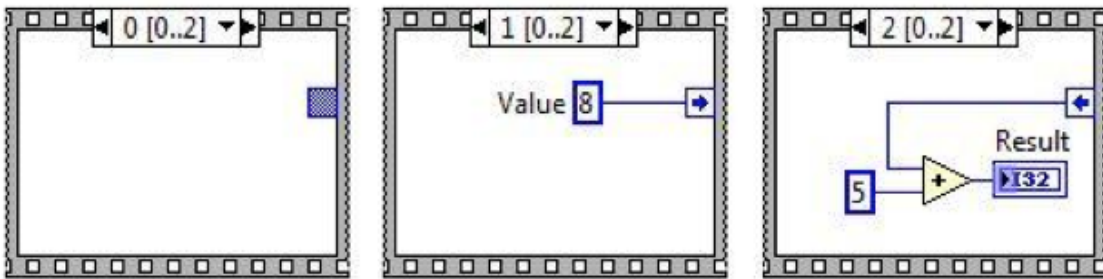
A. 0

B. 1

C. 2

D. 3

36. Why is the sequence local terminal displayed as unassigned in Frame 0 of the stacked sequence structure?



- A. The data type of the terminal is incompatible with the data type of Value.
- B. The developer disabled the terminal.
- C. The value is available only to frames after frame 1.
- D. The developer chose not to wire the value to any terminal in this frame.

37. What VI is typically used to terminate an Error Cluster wire and to display any error message?

- A. Merge Errors
- B. Simple Error Handler
- C. Generate Front Panel Activity
- D. One Button Dialog / Two Button Dialog

38. The data type of a Ring can be any of the allowable data types, whereas the numerical representation of the data type of an Enum can only be of unsigned data type

- A. True
- B. False

39. Which data synchronization mechanism ensures that no data is lost when an application temporarily provides data faster than it is able to process it?

- A. Semaphore

B. Local Variable

C. Notifier

D. Queue

40. Which of the following is the best method to update an indicator on the front panel?

A. Use a Local Variable.

B. Use a Functional Global Variable.

C. Wire directly to the indicator terminal.

D. Use a Value Property Node.