



Certified LabVIEW Associate Developer Exam

Test Booklet

Version #: CLAD - English - 100301-01

Test Code: 23523

Note: The use of the computer or any reference materials is NOT allowed during the exam.

Instructions:

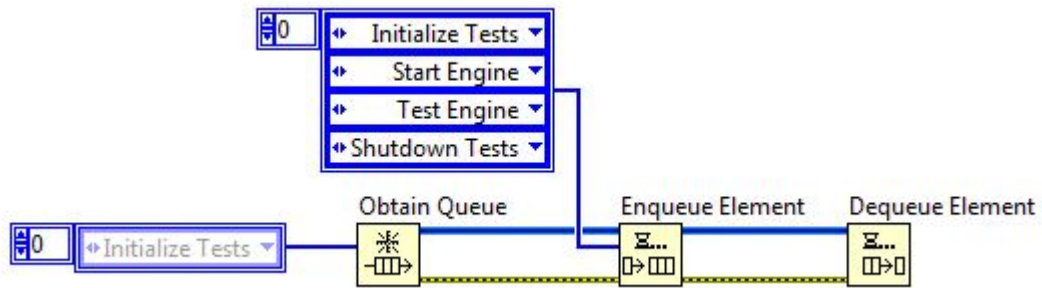
- **Please do not detach the binding staple of any section. If any part of the exam paper is missing or detached when returned to National Instruments, you will be deemed to have failed the exam.**
- Please follow the instructions on the Answer Sheet. If you fill in your Test Code or Question Responses incorrectly, **your test will be invalidated.**
- Indicate **ALL** answers on the Answer Sheet. Answers recorded in this test booklet will **NOT** be evaluated.
- Please do not ask the proctor for help. If you believe the intent of a question is not clear, you may note that question, and your reasons for choosing the answer you believe best fits the question.
- This examination may not be taken from the examination area or reproduced in any way. You may not keep any portion of this exam after you have completed it.

Exam Details:

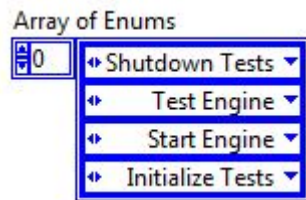
- Time allocated: 1 hour
- Type of exam items: Multiple choice
- Number of exam items: 40 questions
- Passing Grade: 70%

IMPORTANT: When you have completed this exam, place it in the provided envelope with your answer sheet and SEAL the envelope. Give the sealed envelope to your proctor.

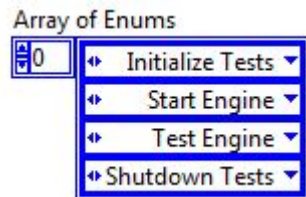
Q1: What is the output of the Dequeue Element function?



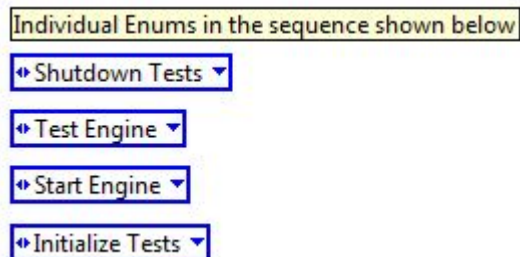
A



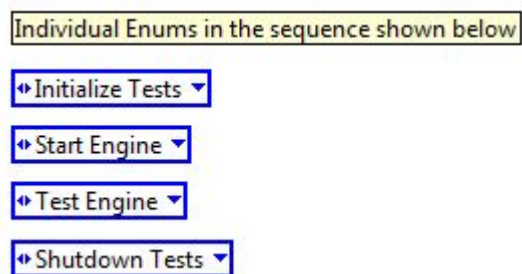
B



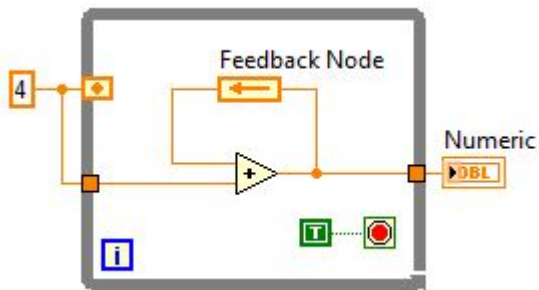
C



D

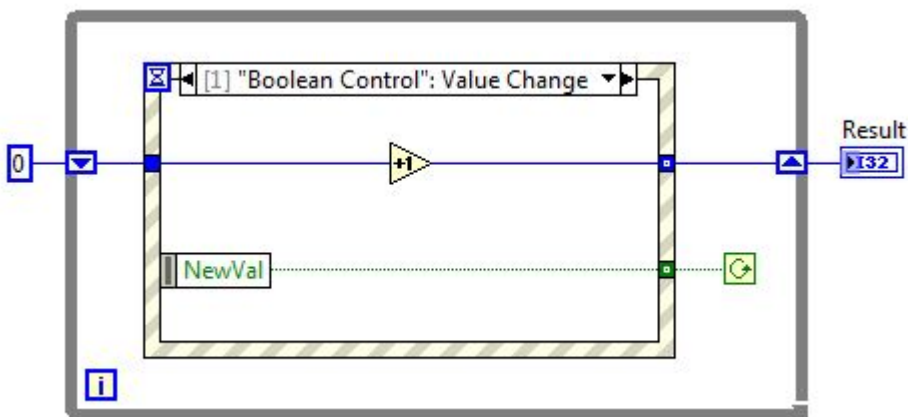
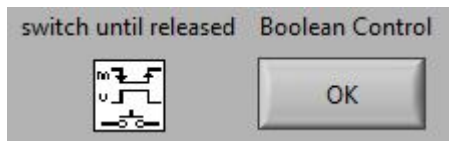


Q2: What value does the **Numeric** indicator display after this code executes?



- A 0
- B 4
- C 8
- D The While Loop iterates indefinitely

Q3: 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

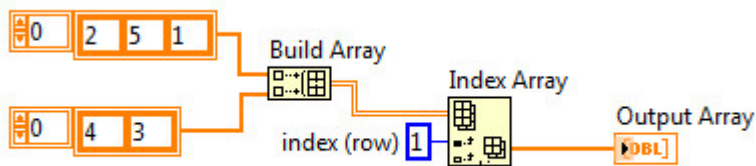
Q4: Why is a Wait function unnecessary in the Consumer loop of a Producer/Consumer design pattern?

- A Synchronization functions wait for data to be available by default
- B While Loops provide an inherent form of timing
- C LabVIEW detects the use of the design pattern and provides a configurable timing source
- D LabVIEW detects the use of the design pattern and ensures that the loop runs at an appropriate frequency

Q5: Which data file type is best suited for random access reading?

- A ASCII
- B Object Class
- C Text
- D Binary

Q6: What does the **Output Array** indicator display after the code executes?

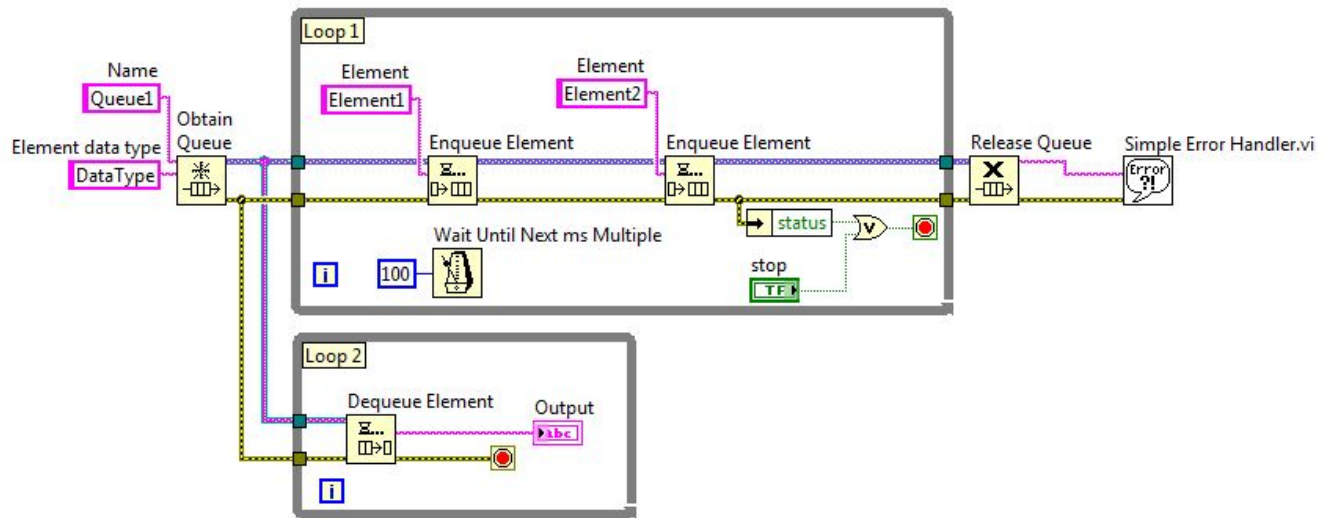


- A [2 4]
- B [4 3]
- C [2 5 1]
- D [4 3 0]

Q7: What are the three main elements of the Waveform data type?

- A dt, X, Y
- B t0, X, Y
- C t0, dt, Y
- D t0, dt, dY

Q8: What value does the **Output** indicator display after the first iteration of Loop 2?



- A Queue1
- B Element1
- C Element2
- D Element1Element2

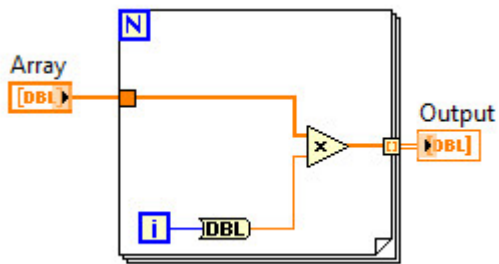
Q9: Why would you use the Probe tool rather than Highlight Execution?

- A To observe the flow of data
- B To show the value of a wire as a VI runs at normal execution speed
- C To look into a SubVI while the process runs
- D To slow down the VI and display data values of wires

Q10: Which mechanism is used to implement a functional global variable?

- A Uninitialized shift register
- B Local variable
- C Property Node
- D Control

Q11: Does the VI result in a broken run arrow?

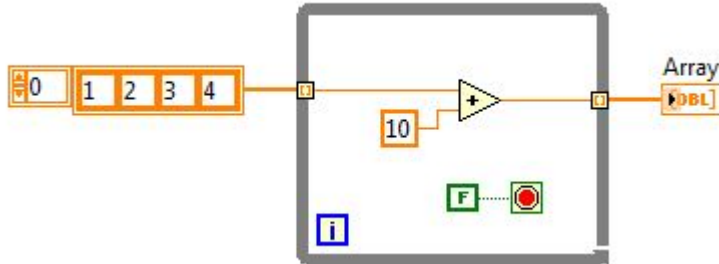


- A Yes, because the Count terminal is unwired
- B Yes, because **Output** does not match the dimensions of the output of the multiplication function
- C Yes, because a scalar cannot be multiplied with an array
- D No

Q12: Which mechanism can modify the position of a front panel object while a VI is running?

- A Property Node
- B Invoke Node
- C Functional global variable
- D Tools palette

Q13: Which statement about the code is **TRUE**?







- A While Loop iterates four times and stops
- B While Loop iterates ten times and stops
- C While Loop iterates once and stops
- D While Loop iterates indefinitely

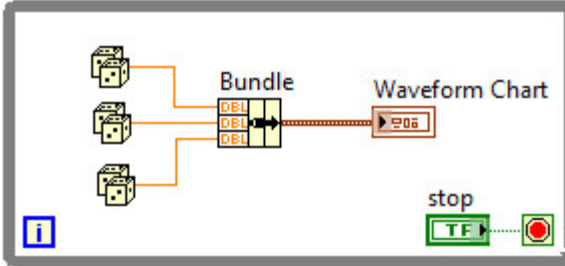
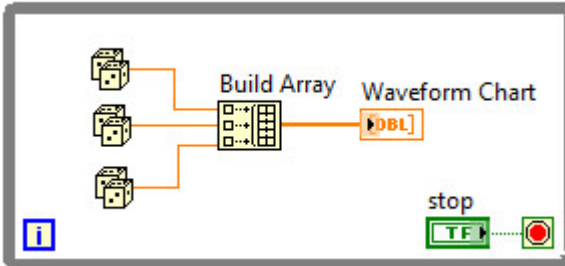
Q14: Which statement is **FALSE**?

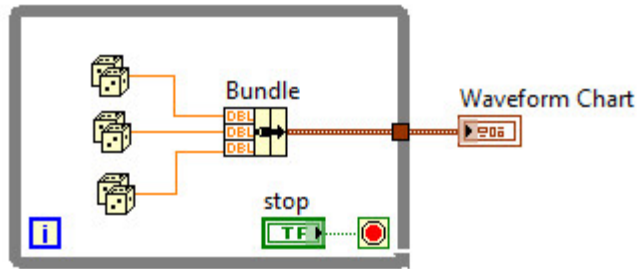
- A A subVI connector pane defines where to wire inputs and outputs
- B The color of a subVI connector pane terminal matches the data type to which it connects
- C A subVI must have an icon and connector pane
- D A subVI icon can be edited from the functions palette

Q15: Which timing function can roll over during program execution?

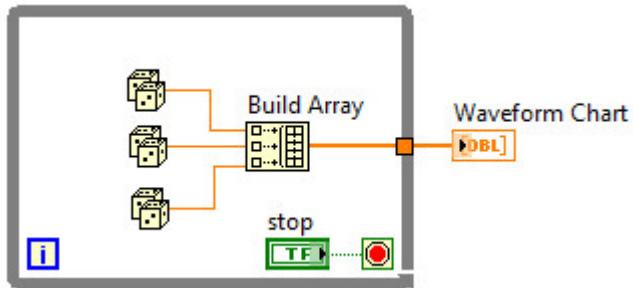
- A 
- B 
- C 
- D 

Q16: Which code snippet continuously displays multiple plots on the same waveform chart until the user presses the **Stop** button?

- A 
- B 



C



D

Q17: When do you use the Probe tool instead of Breakpoints?

- A To slowdown the VI to show values in wires
- B To visualize the flow of data
- C To examine the data on a wire without suspending execution
- D To look into a SubVI as the process is running

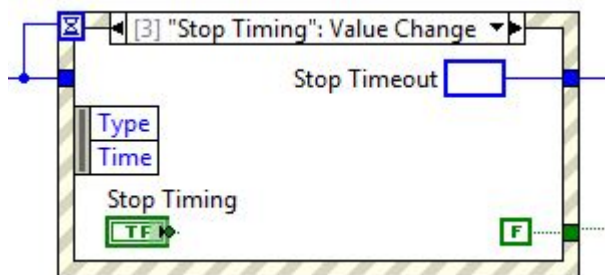
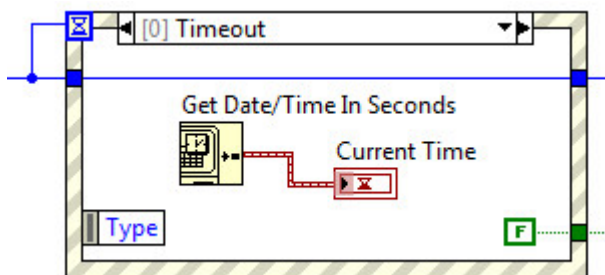
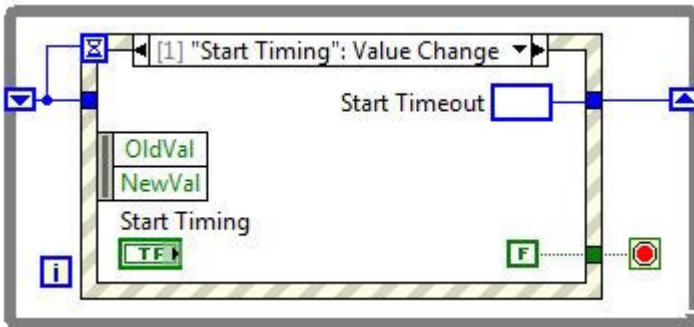
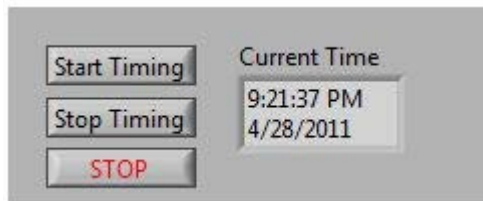
Q18: What TypeDef status should be selected for a custom control so that all copies of the control are of the same data type yet have the flexibility to use different colors and styles?

- A Control
- B Type Def.
- C Strict Type Def.
- D Flex Def.

Q19: Which mechanism stores state information in a simple state machine?

- A Functional global variable
- B Shift Register
- C Queue
- D Notifier

Q20: Current Time should update every second, starting when the user presses the **Start Timing** button and stopping when the user presses the **Stop Timing** button. What values are needed in the **Start Timeout** and **Stop Timeout** constants to achieve the intended functionality?



- A Start Timeout = 1000, Stop Timeout = -1
- B Start Timeout = 1, Stop Timeout = -1
- C Start Timeout = 1000, Stop Timeout = 0
- D Start Timeout = 1, Stop Timeout = 0

Q21: Which programming model does LabVIEW use to determine block diagram execution order?

- A** Control flow, program elements execute in sequential order
- B** Top to bottom, program elements execute in order of position, starting at the top and moving downward
- C** Left to right, program elements execute in order of position, starting on the left and moving right
- D** Dataflow, program elements execute when all their inputs are available

Q22: Which setting assigns specific keys or key combinations to a front panel control?

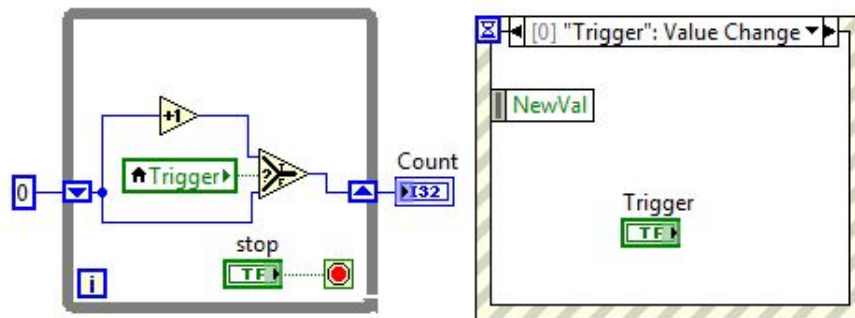
- A** Key Focus
- B** Key Navigation
- C** Radix
- D** Distribute Objects

Q23: Assuming that automatic error handling is enabled, does LabVIEW display the error to the user at the end of execution?

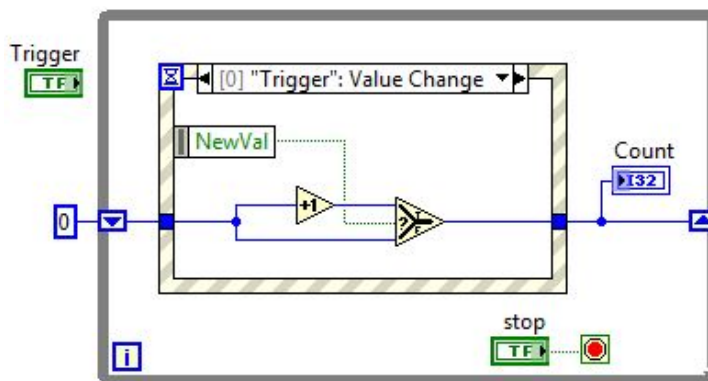


- A** No. No error is displayed because closing the file reference will clear the error
- B** No. LabVIEW clears the error because automatic error handling is enabled
- C** Yes. LabVIEW displays an error that occurred at Close file
- D** Yes, but LabVIEW interrupts execution to report the error

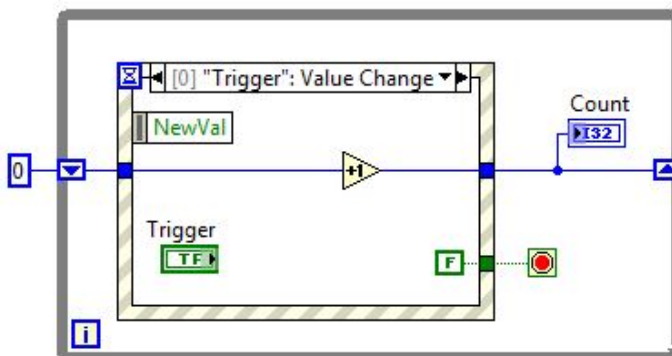
Q24: The **Trigger** control is configured with a latching mechanical action. Which of the code snippets returns a **Count** value that displays the number of times the user clicks the **Trigger** control?



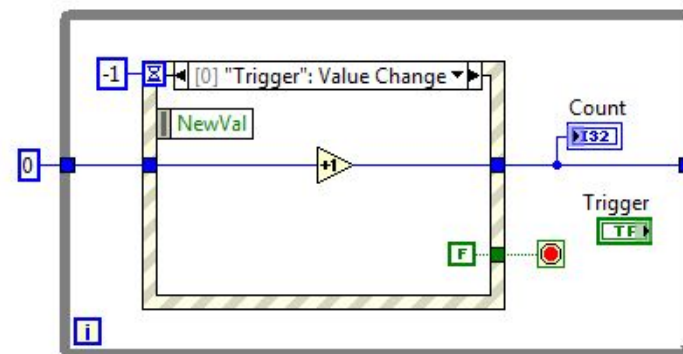
A



B



C

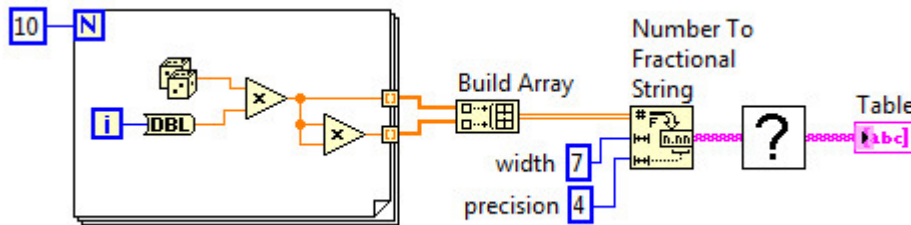


D

Q25: How do you document a VI so the description appears in the Context Help window when you hover over the VI icon?

- A Set the VI Description field in the VI Properties dialog box
- B Type in the Show Context Help window
- C Create a free label on the front panel called VI Description
- D Edit the LabVIEW help files

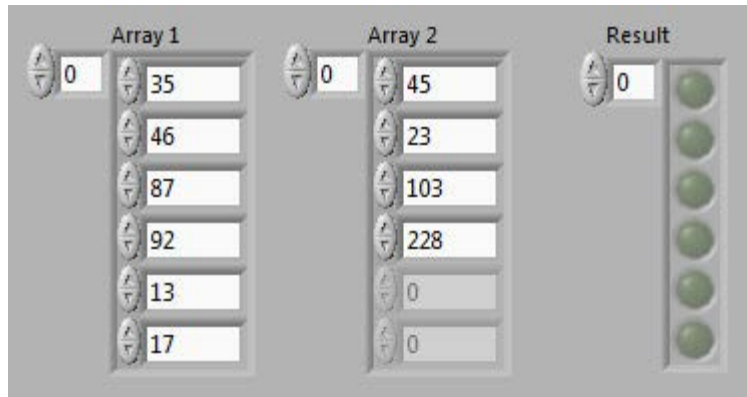
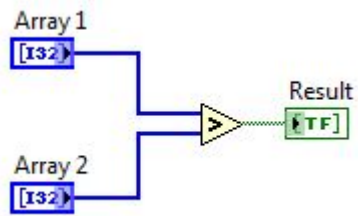
Q26: Which function replaces the question mark (?) to generate the **Table**?



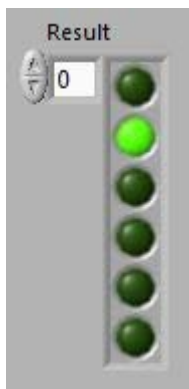
	x	x ²
0	0.0000	0.0000
1	0.7189	0.5168
2	1.1069	1.2253
3	1.0199	1.0402
4	0.9206	0.8474
5	3.1151	9.7039
6	5.3427	28.5444
7	4.2457	18.0256

- A **Transpose 2D Array**
- B **Build Array**
- C **Array To Spreadsheet String**
- D **Format Into String**

Q27: What does the Result indicator display after the code executes?



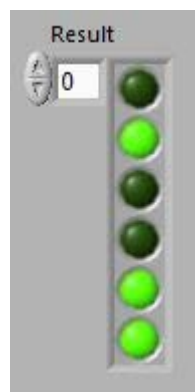
A



C



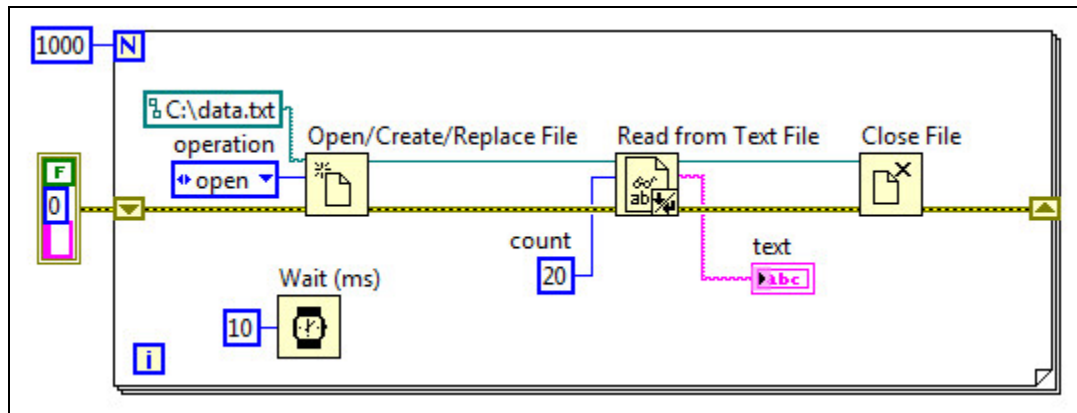
B



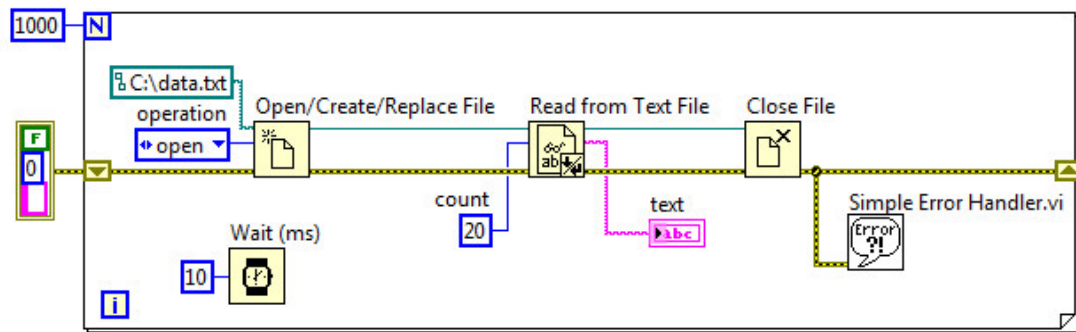
D



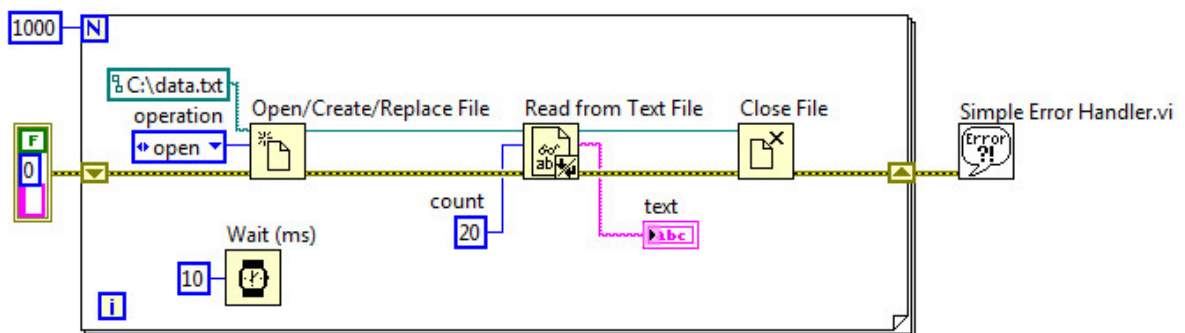
Q28: The file C:\data.txt does not exist, but the VI does not report an error. Which code snippet reports an error and stops?

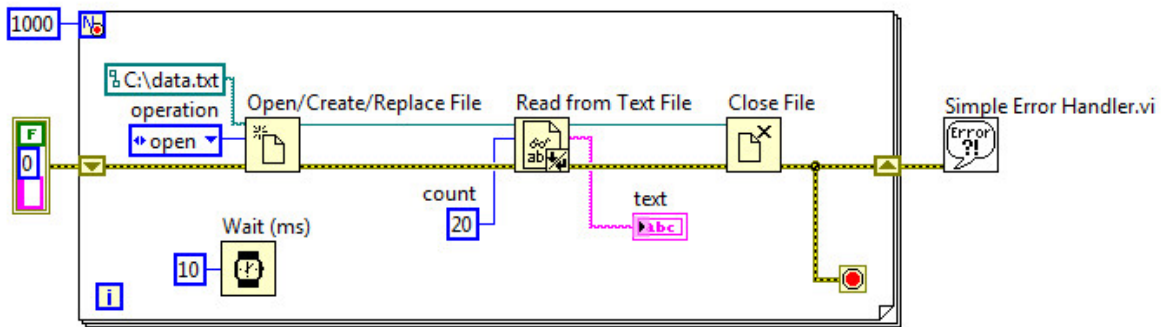


A

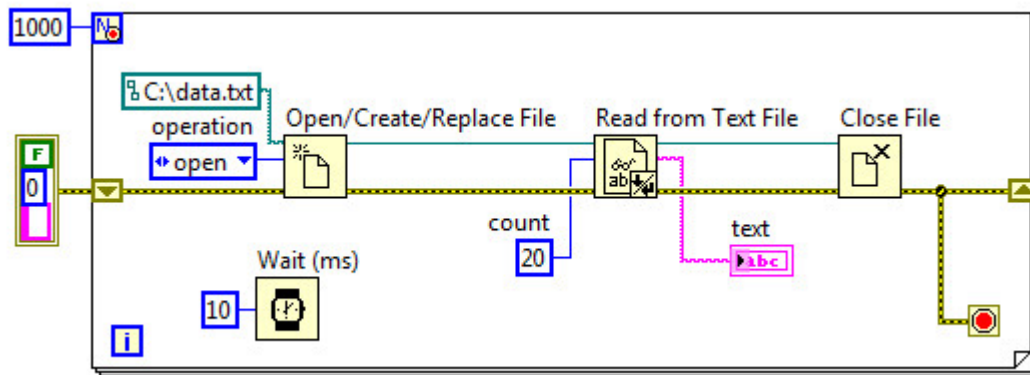


B



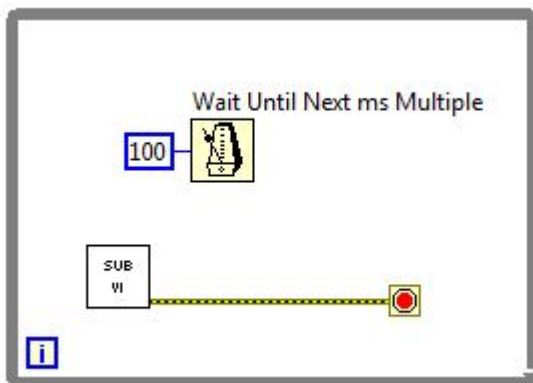


C



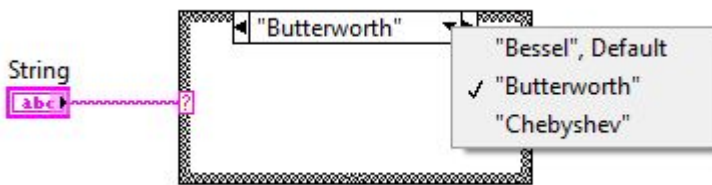
D

Q29: Which conditions cause this While Loop to stop?



- A A TRUE value in the status Boolean of the error cluster
- B A non-zero value in error code of the error cluster
- C A negative value in error code of the error cluster
- D Any of the above

Q30: If the String input value is "butterworth", which case in the case structure executes?

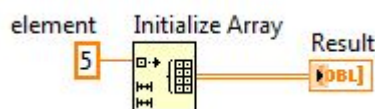


- A "Butterworth"
- B "Chebyshev"
- C "Bessel", Default
- D None. The VI has a broken run arrow

Q31: What benefit results from adding a delay (e.g., a Wait until Next ms Multiple function) to a While Loop?

- A Reduced memory usage
- B Reduced CPU usage
- C Faster loop execution
- D Memory pre-allocation

Q32: What value does the **Result** indicator display after the code executes



- A The function returns an error
- B 1D empty array
- C 2D empty array
- D 2D array of 1 row and 1 column with 5 as the element

Q33: Which statement correctly describes the code execution if no errors occur?



- A The property node writes to the Disabled property first and then writes to the KeyFocus property
- B The property node writes to the KeyFocus property first and then writes to the Disabled property
- C The property node writes to both the Disabled property and KeyFocus property at the same time
- D The execution order of the property node is indeterminate

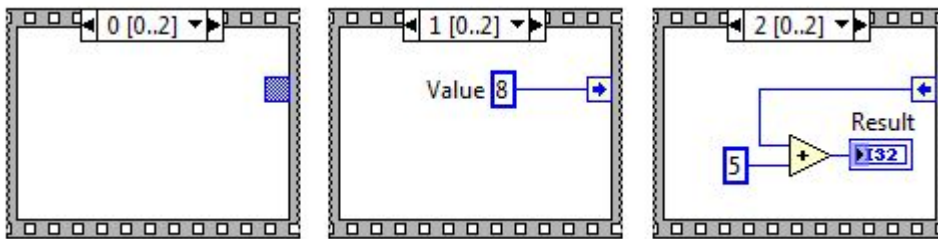
Q34: What is the function of a local variable?

- A To pass data within a single VI
- B To pass data between multiple VIs in a single project
- C To pass data between multiple VIs on a single computer
- D To pass data between multiple VIs across multiple computers

Q35: Which statement about Charts and Graphs is **TRUE**?

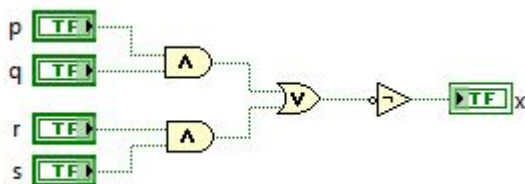
- A Graphs support multiple x-scales and y-scales and Charts support multiple y-scales
- B Graphs support multiple y-scales and Charts support multiple x-scales and y-scales
- C Both Charts and Graphs support multiple x-scales and y-scales
- D Neither Charts nor Graphs support multiple x-scales or y-scales

Q36: Why is the sequence local terminal displayed as unassigned in Frame 0 of the stacked sequence structure?



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

Q37: Which combination of inputs displays a Boolean TRUE in the x indicator?



- A p=TRUE, q=TRUE, r=TRUE, s=TRUE
- B p=TRUE, q=TRUE, r=FALSE, s=TRUE
- C p=TRUE, q=FALSE, r=TRUE, s=TRUE
- D p=FALSE, q=TRUE, r=TRUE, s=FALSE

Q38: What functionality do Control References provide?

- A** Ability to add controls and indicators to a VI programmatically
- B** Access to the properties of Front Panel objects in subVIs
- C** Control of multiple DAQ inputs through alias names
- D** Ability to wire from controls to functions and subVIs

Q39: Which statement about LabVIEW program execution model is **TRUE**? (Select all that apply)

- A** A block diagram node executes when it receives all Recommended connector pane inputs
- B** LabVIEW follows a dataflow model of program execution
- C** A block diagram node executes when it receives all Required connector pane inputs
- D** The flow of data through nodes defines the order of execution

Q40: Which do you use to initialize all front panel objects to their default values?

- A** Property Node
- B** Invoke Node
- C** User interface event
- D** User event