

Answer all the following questions :

Q1. (9 Marks)

1. Name five differences between virtual Instruments and traditional Instruments ?
2. Why LabVIEW ideal for creating virtual instruments ?
3. Draw the typical file I/O operation process ?

Q2. Which of the following is true and which is false. (5 Marks)

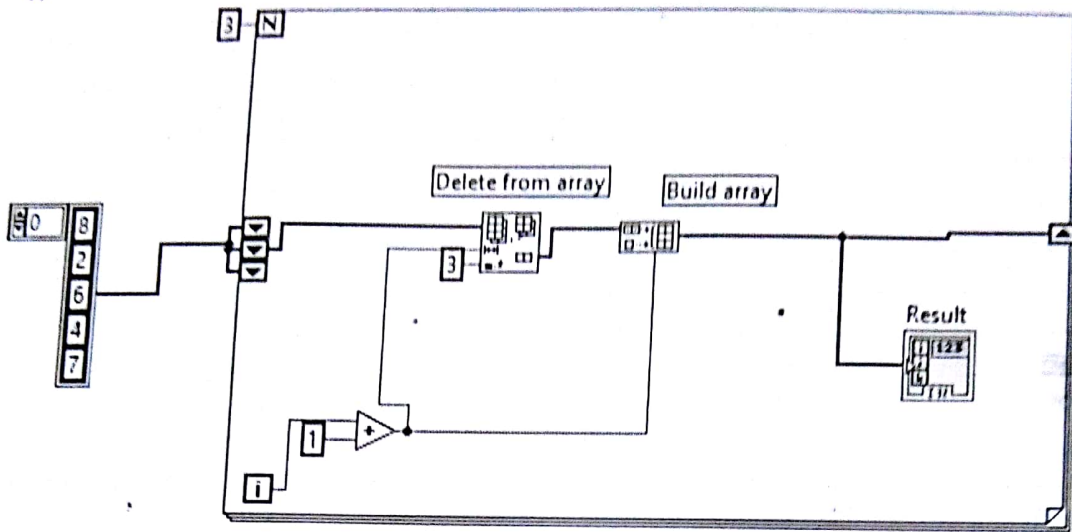
- a. Cluster elements have a logical order related to their position in the shell ()
- b. TDMS—Type of binary file created for NI products consisting of two separate files: a binary file and a binary index file ()
- c. Boolean controls with associated local variables must use switch mechanical action ()
- d. Use a global variable to share data between multiple VIs on the same computer, especially if you do not use a project file ()
- e. You can change data types without using control or indicator representation, like change Boolean array to number ()

Q3. Complete the following: (16 Marks)

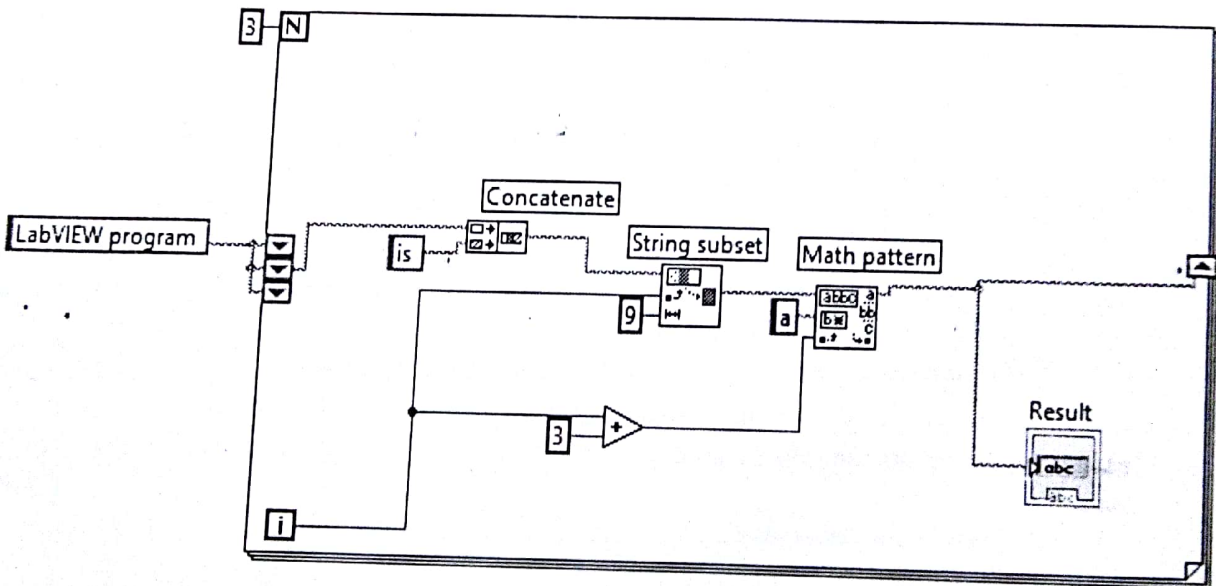
1. A SubVI connector pane defines where to
2. The functions that assembles Cluster elements by their owned labels
- 3*. The three methods to connect Arduino to LabVIEW are
- 4*. Signals generated or acquired by an
5. Contains one or more subdiagrams, which execute in sequential order.
6. A simple model of the formula node is
7. Modules in LabVIEW are called
8. simplifies problem solving using software. The method uses a set of steps that has been refined over the years by software engineers . It is a strategy used by programmers of any programming language to create solutions.
9. LabVIEW programs are called Virtual Instruments (VIs) because
10. Use to watch the data flow through the block diagram.
- 11*. Chart update mode should be used to compare old and new data separated by a vertical line called
- 12*. To force execution order, use

Q4. Find the indicator result of the following : (10 Marks)

1.



2.



Answer all the following questions :

Q1. (10 Marks)

1. Name five differences between virtual Instruments and traditional Instruments ?
2. Why LabVIEW ideal for creating virtual instruments ?
3. Give a brief introduction about LabVIEW interface arduino and draw the typical file I/O operation process ?

Q2. Complete the following: (20 Marks)

1. A SubVI connector pane defines
2. The functions that assembles Cluster elements by their owned labels
3. The three methods to connect Arduino to LabVIEW are
4. Signals generated or acquired by an
5. Sequence structure Contains one or more subdiagrams, which execute in sequential order.
6. A simple model of the formula node is
7. Modules in LabVIEW are called
8. method simplifies problem solving using software. The method uses a set of steps that has been refined over the years by software engineers . It is a strategy used by programmers of any programming language to create solutions.
9. LabVIEW programs are called Virtual Instruments (VIs) because
10. Use to watch the data flow through the block diagram.
11. Property Nodes access
12. To force execution order, use
13. Property Nodes and Invoke Nodes are part of a larger architecture called
14. A class defines.....
15. LabVIEW front panel objects inherit properties and methods from
16. Build specification in LabVIEW project includes
17. A Property Node created from the front panel object or block diagram terminal is
18. Use a to associate an Invoke Node with the current VI
19. Use the Invoke Node
20. The name of multiplier function is

Line No.	$x(n), n \geq 0$	z-Transform $X(z)$	Region of Convergence
1	$x(n)$	$\sum_{n=0}^{\infty} x(n)z^{-n}$	
2	$\delta(n)$	1	$ z > 0$
3	$au(n)$	$\frac{az}{z-1}$	$ z > 1$
4	$nu(n)$	$\frac{z}{(z-1)^2}$	$ z > 1$
5	$n^2 u(n)$	$\frac{z(z+1)}{(z-1)^3}$	$ z > 1$
6	$a^n u(n)$	$\frac{z}{z-a}$	$ z > a $
7	$e^{-na} u(n)$	$\frac{z}{z - e^{-a}}$	$ z > e^{-a}$
8	$na^n u(n)$	$\frac{az}{(z-a)^2}$	$ z > a $
9	$\sin(an)u(n)$	$\frac{z \sin(a)}{z^2 - 2z \cos(a) + 1}$	$ z > 1$
10	$\cos(an)u(n)$	$\frac{z[z - \cos(a)]}{z^2 - 2z \cos(a) + 1}$	$ z > 1$
11	$a^n \sin(bn)u(n)$	$\frac{[a \sin(b)]z}{z^2 - [2a \cos(b)]z + a^2}$	$ z > a $
12	$a^n \cos(bn)u(n)$	$\frac{z[z - a \cos(b)]}{z^2 - [2a \cos(b)]z + a^2}$	$ z > a $
13	$e^{-an} \sin(bn)u(n)$	$\frac{[e^{-a} \sin(b)]z}{z^2 - [2e^{-a} \cos(b)]z + e^{-2a}}$	$ z > e^{-a}$
14	$e^{-an} \cos(bn)u(n)$	$\frac{z[z - e^{-a} \cos(b)]}{z^2 - [2e^{-a} \cos(b)]z + e^{-2a}}$	$ z > e^{-a}$