
ASSIGNMENT

REGISTER NUMBER	
NAME	
DATE OF SUBMISSION	

Note: Last date of submission of assignment – 11.10.2020

INSTRUCTIONS

- Build all the VIs in NI LabView software and paste the images of Front Panel and Block Diagram of the VIs in a word document.
- Mention correct Question Number and give appropriate headings for each of the VIs.
- Upload the assignment as a single document in pdf format within the due date.
- Each question carries 10 Marks.

ASSIGNMENT QUESTIONS

1. Create a VI to find the determinant of a 2 x 2 matrix which is represented in the form of a 2D array using Index Array Function.
2. Create a global VI which consists of a knob and a stop button. Create another VI consisting of a slider and a waveform chart. Update the values of Global VI's knob and the slider value in the waveform chart. Press the stop button of the Global VI to stop both the VIs.
3. Build a VI to execute the expression, $(A + B)/[(A + B) * 2]$ using Stacked Sequence and Flat Sequence structures. The three cases be,

Case 1: $A + B$

Case 2: $(A + B) * 2$

Case 3: $(A + B)/[(A + B) * 2]$
4. Build a VI to execute the following equation using formula node and display the output y through a waveform graph. Here x varies from 0 to 20 in steps of 0.1.

$$a = \tanh(x) + \cos(x)$$

$$y = a^3 + a$$
5. Create a VI to find the sum of first 20 natural numbers using a *WHILE* loop with a feedback node.
6. Create a VI to compare the elements of two clusters. If the values of corresponding elements of both the clusters are same, then switch ON a corresponding LED in the output cluster. Each cluster is to have String, Boolean and Numeric elements.
7. Create a VI to perform addition, subtraction, multiplication and division of two numbers using *CASE* Structures.
8. Build a VI to plot a circle in the XY graph using a *FOR* Loop.
9. Built a VI that generates a 1D array of 10 random numbers. Multiply the array elements by a scaling factor of 100 and find the resultant array. Create a subset array of 5 elements from the resultant array.
10. Build a VI which gets a string input and find its length. Replace a particular word in the input string by a new word and display the resultant string. Find the length of the resultant string. Also join the word 'HI' to the resultant string and display it.