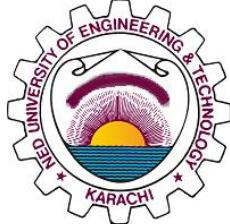


UNDERGRADUATE THIRD YEAR ASSIGNMENT

Department of Mechanical Engineering

NED University of Engineering and Technology



LabView Experiments

Group Number: _____

Batch: 2021 – 2025

Group Member Names:

Syed Shayan Ahmed	ME-21008
Syed Muzammil Ahmed	ME-21009
Muhammad Ammar Siddiqui	ME-21012
Ahsan Iqbal	ME-21013

Approved by

.....

Dr. Faizan Shirazi

Course Coordinator

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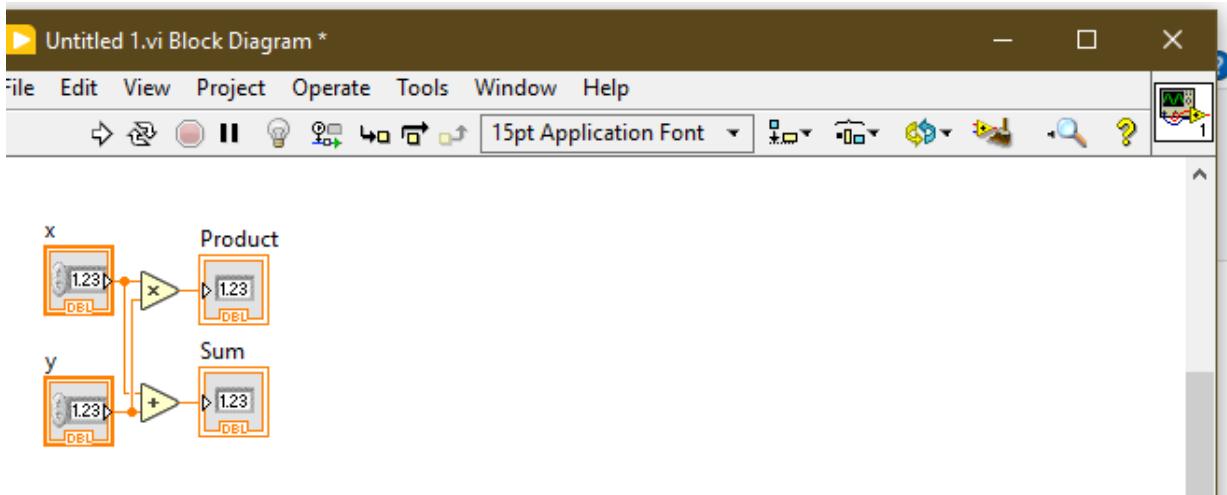
Table of contents

Lab session 21	3
Lab session 22	4
Lab session 23	8
Lab session 24	11
Lab session 25	12
Lab session 26	13
Lab session 27	15
Lab session 28	18

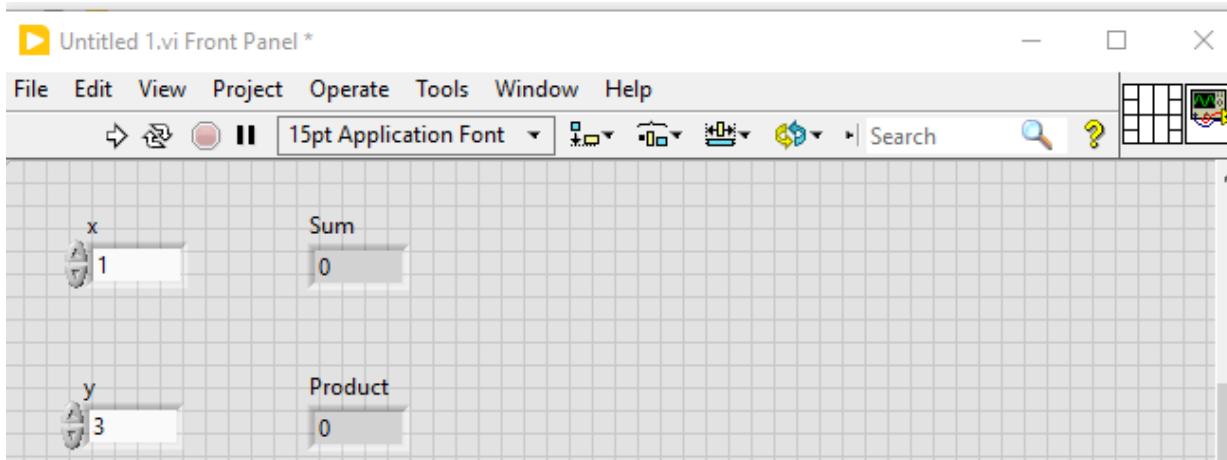
Lab session 21

Objective: Introduction to LabVIEW software.

Block Diagram:



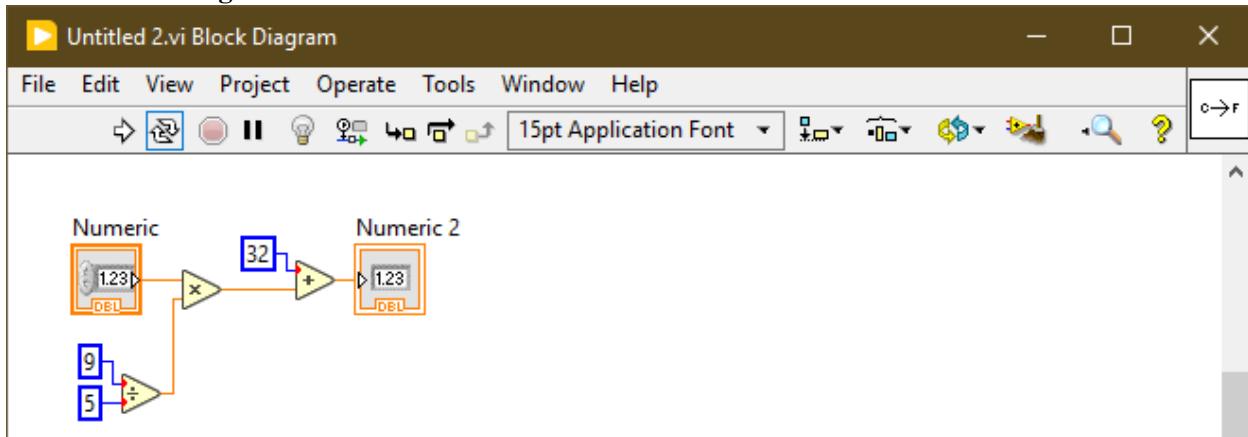
Front Panel:



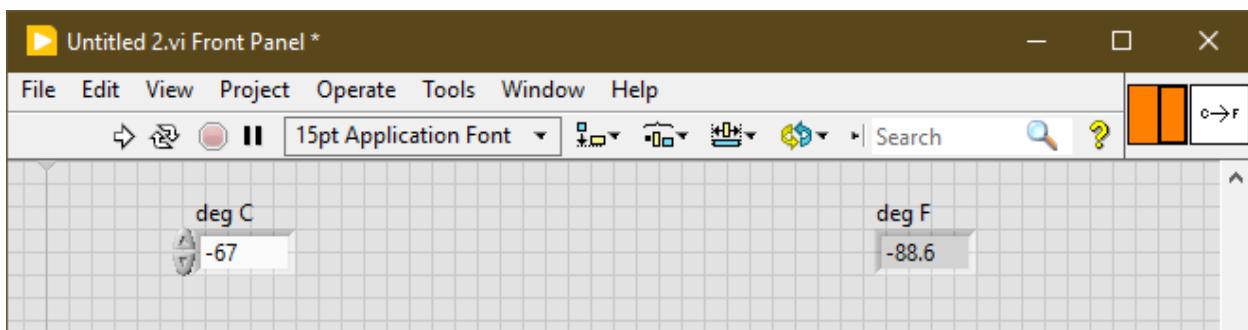
Lab session 22

Objective: Use LabVIEW software to create subVI, and use it in another VI.

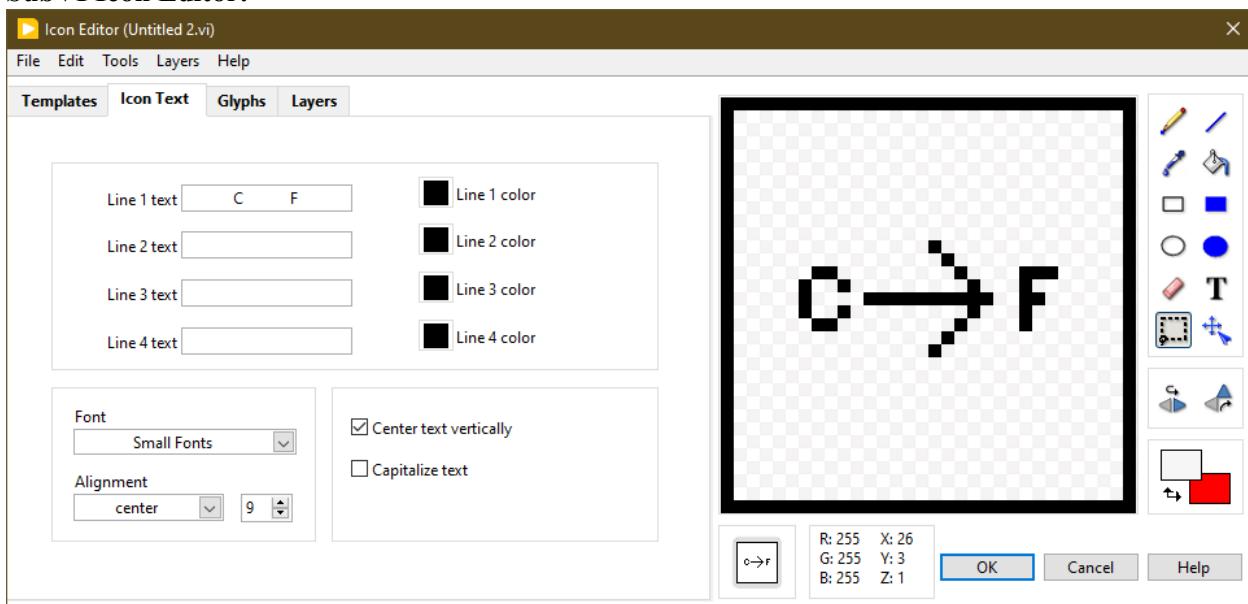
SubVI Block Diagram:



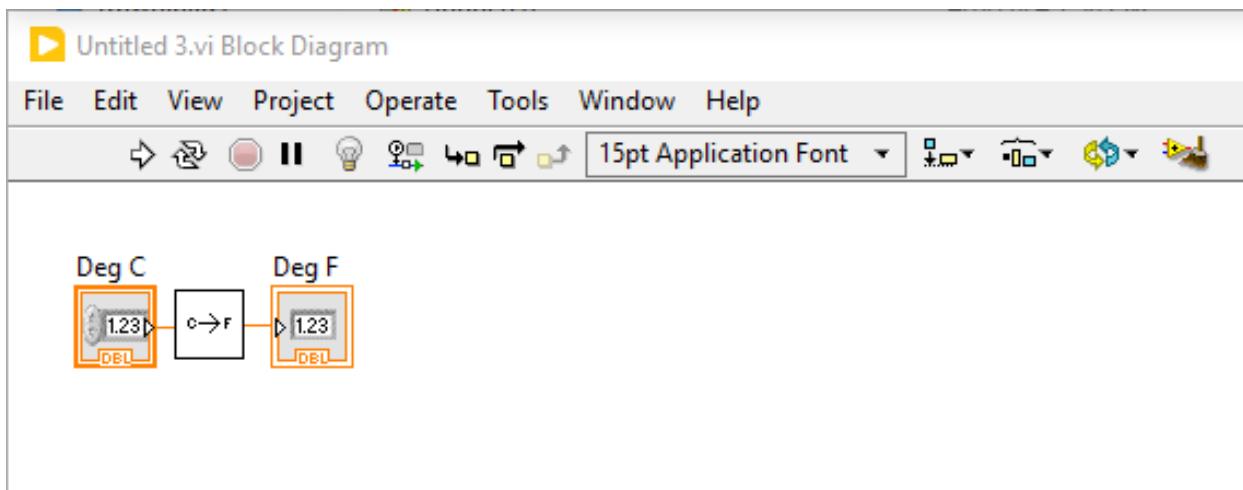
SubVI Front Panel:



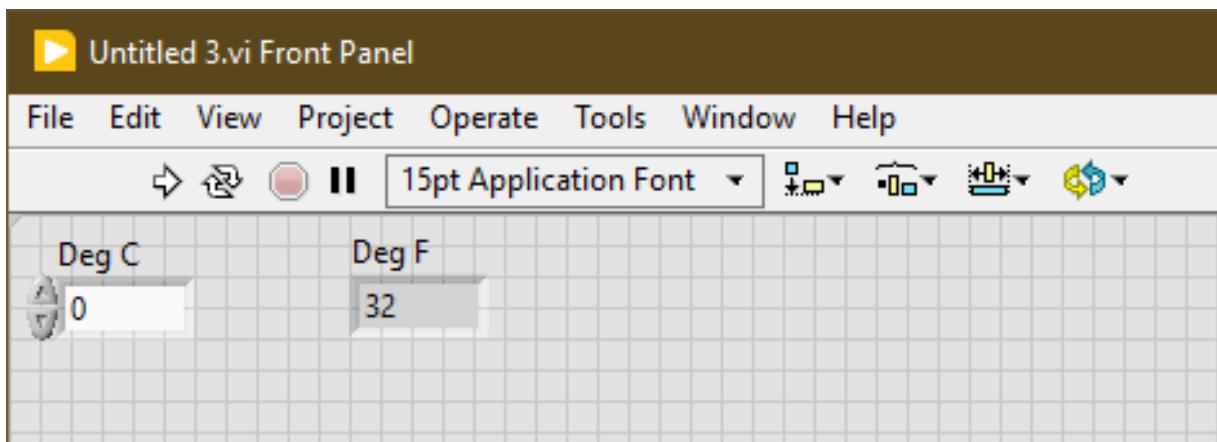
SubVI Icon Editor:



Main Block Diagram:

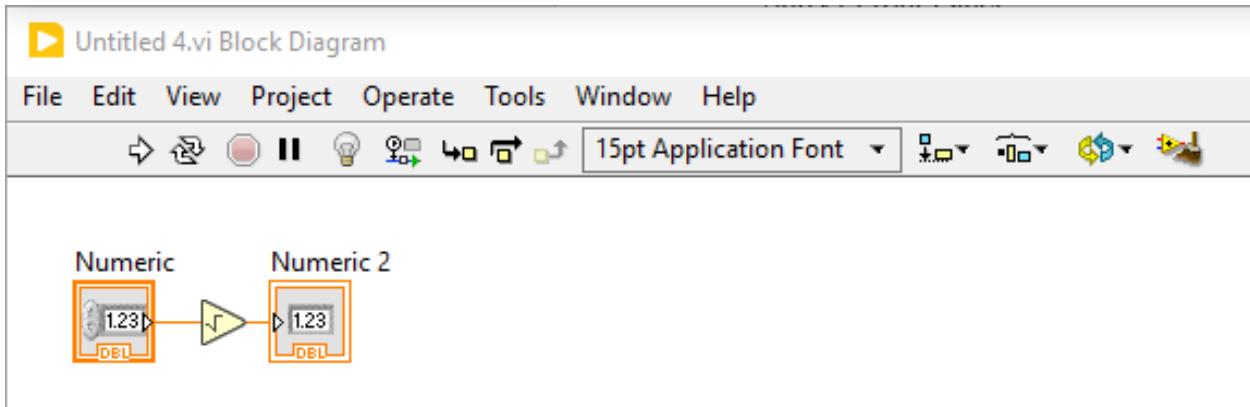


Main Front Panel:

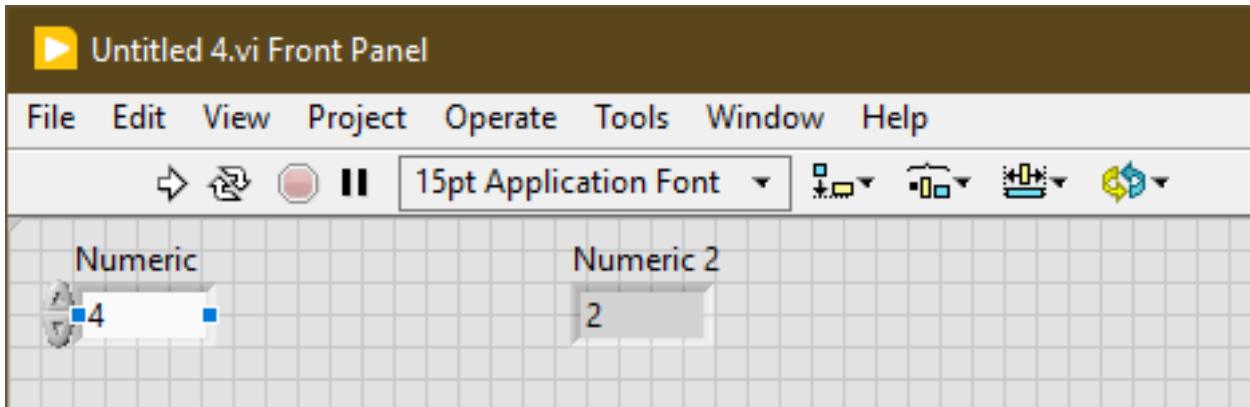


Objective: Use the VI built to calculate square root and convert it into subVI using LabVIEW.

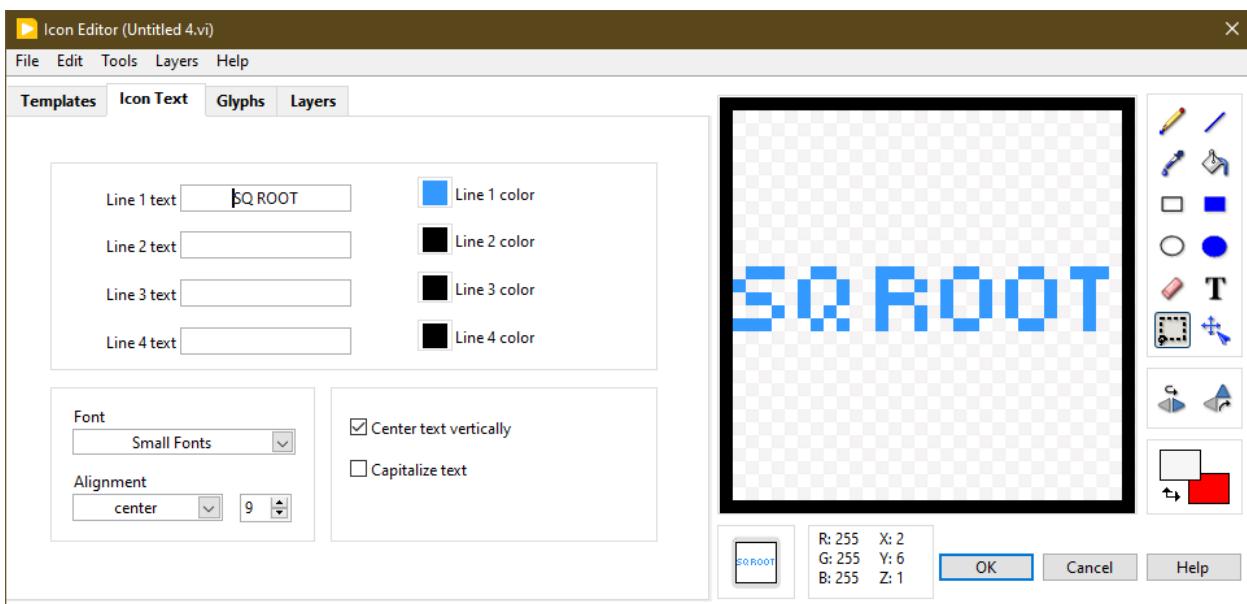
SubVI Block Diagram:



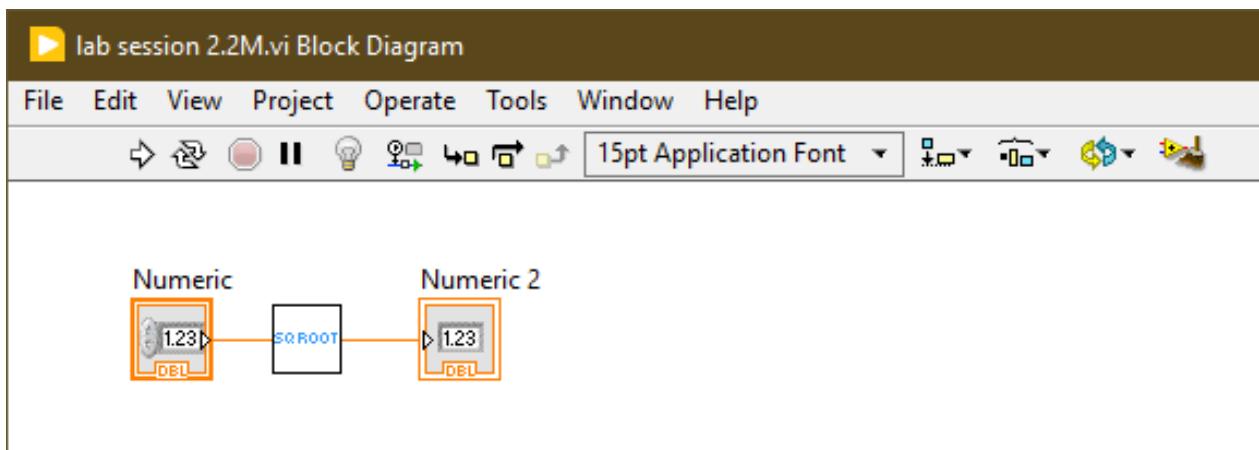
SubVI Front Panel:



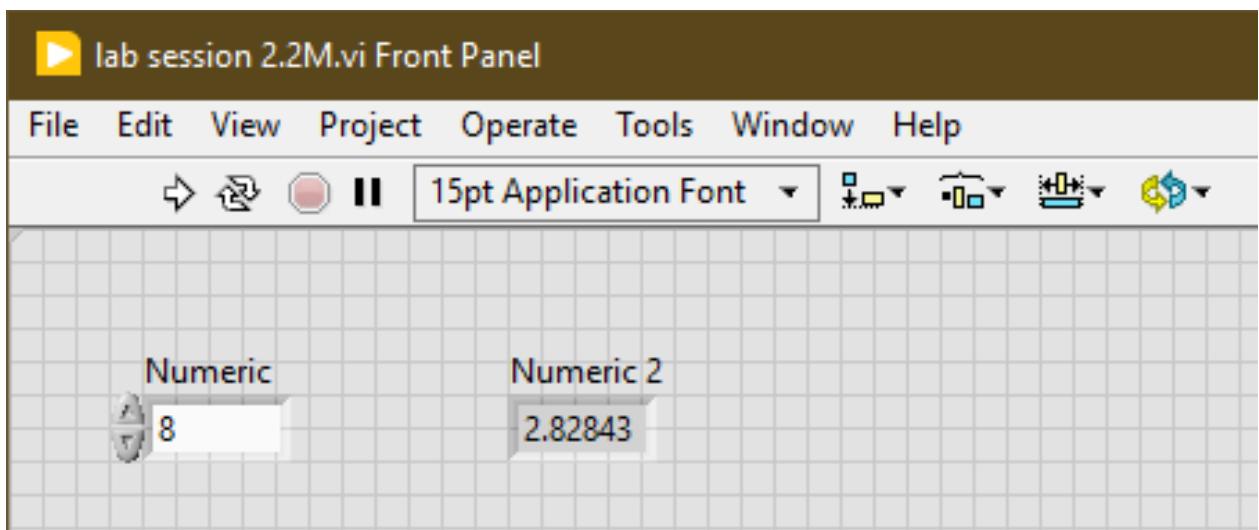
SubVI Icon Editor:



Main Block Diagram:



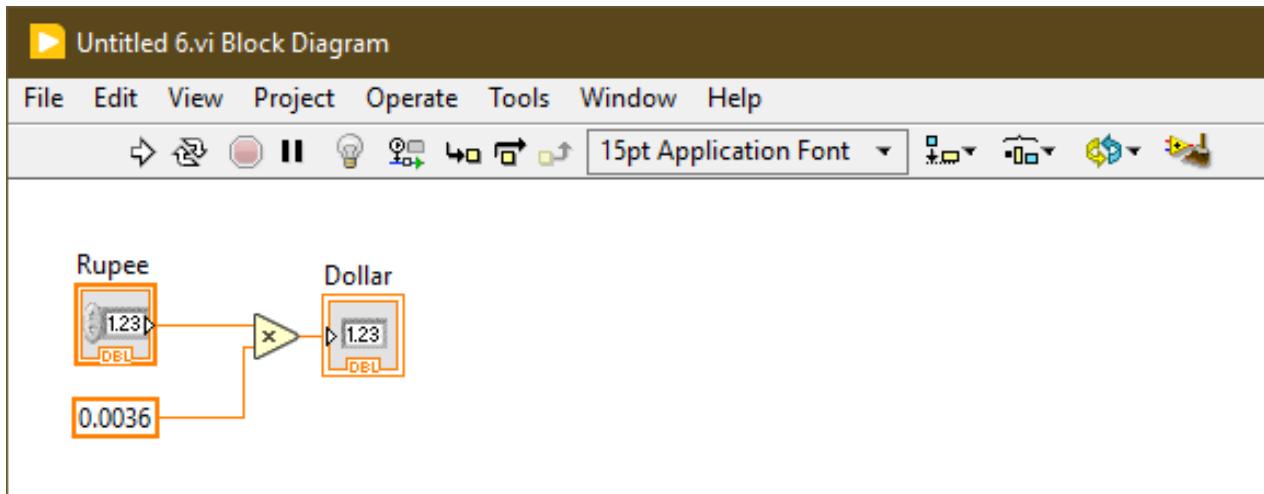
Main Front Panel:



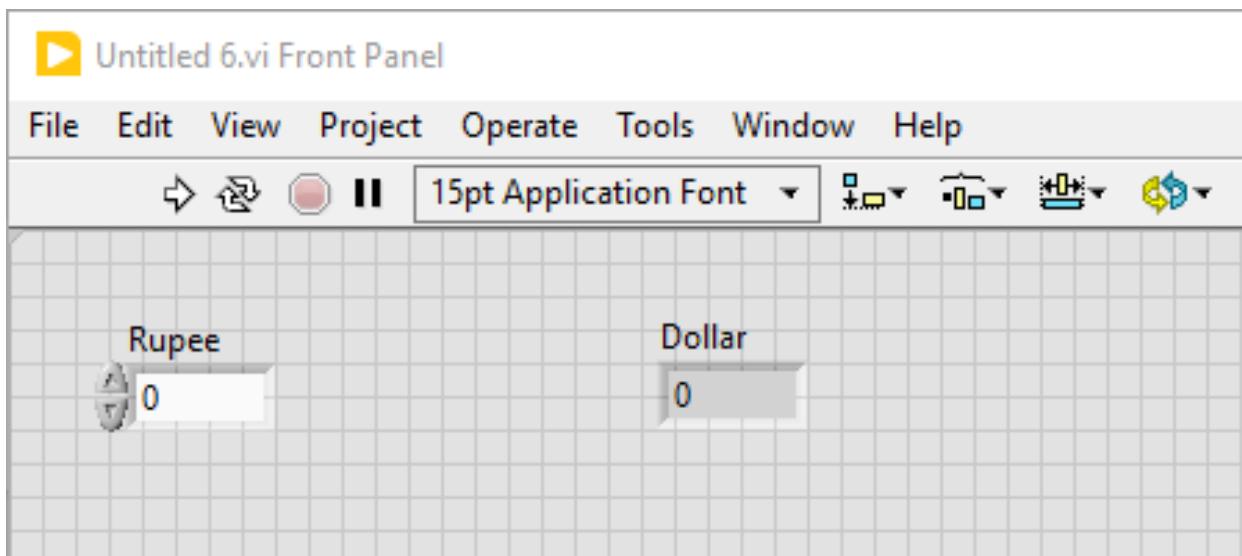
Lab session 23

Objective: Build a VI to convert Rupees to Dollars. Take input from the user by using control.

Block Diagram:

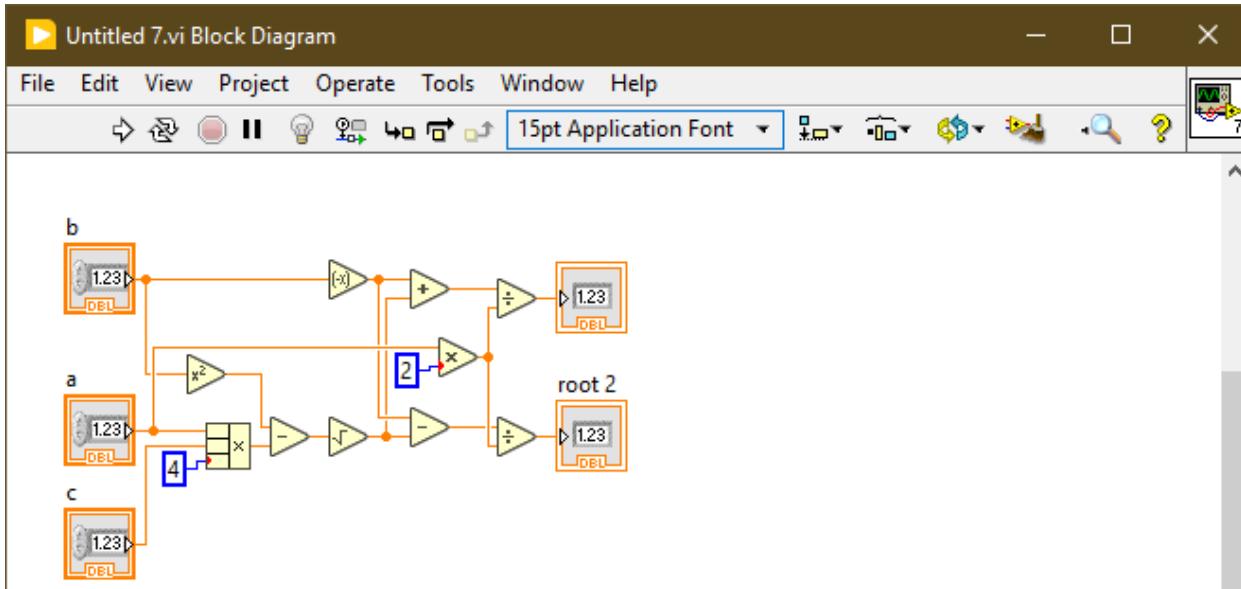


Front Panel:

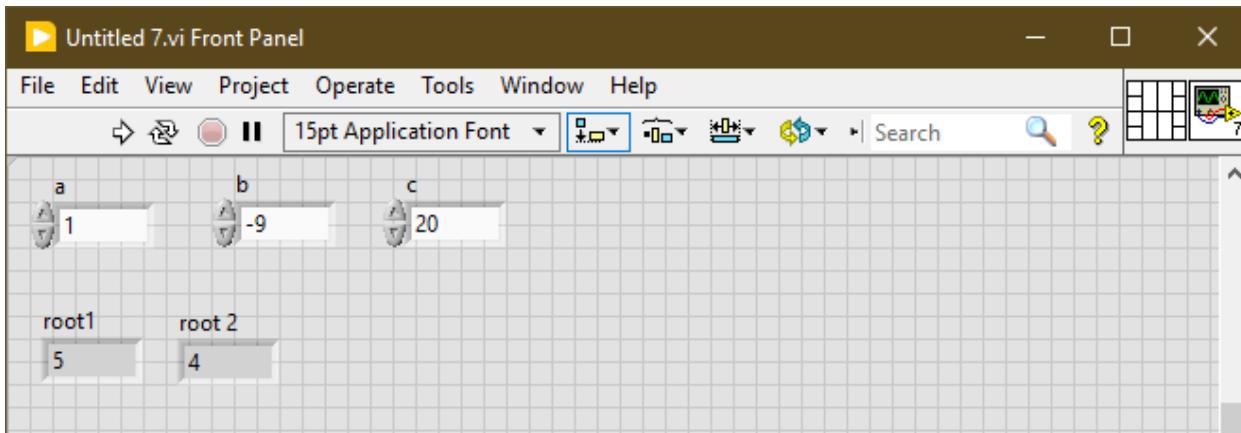


Objective: Solve the given equation $x^2 - 9x + 20 = 0$ by using quadratic formula

Block Diagram:

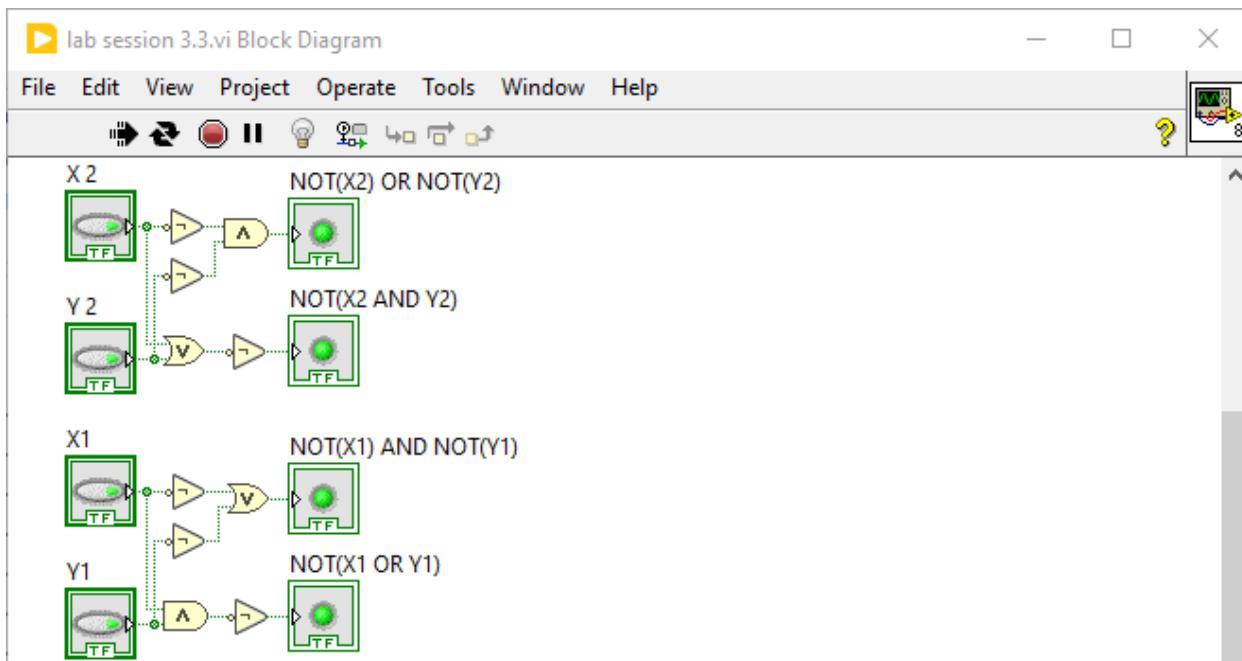


Front Panel:

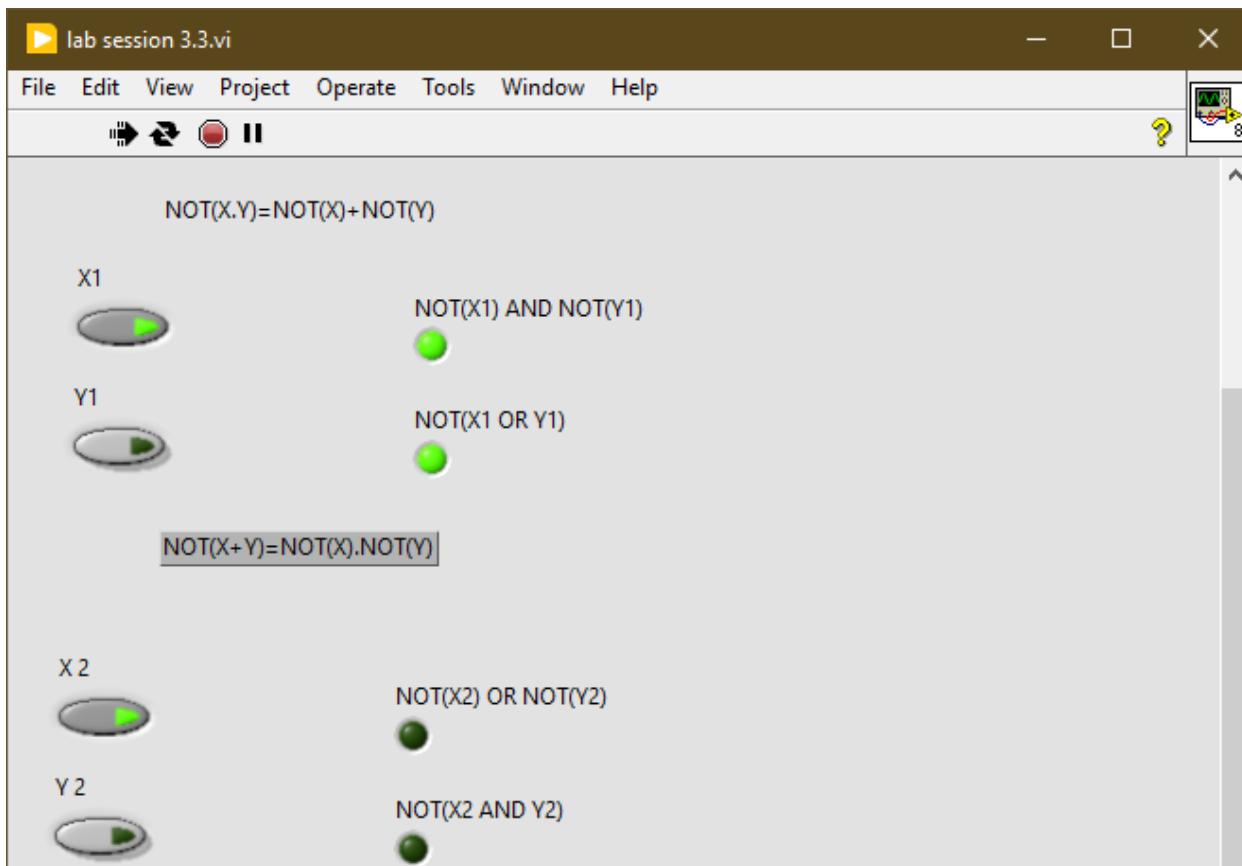


Objective: Verify De Morgan's laws

Block Diagram:



Front Panel:

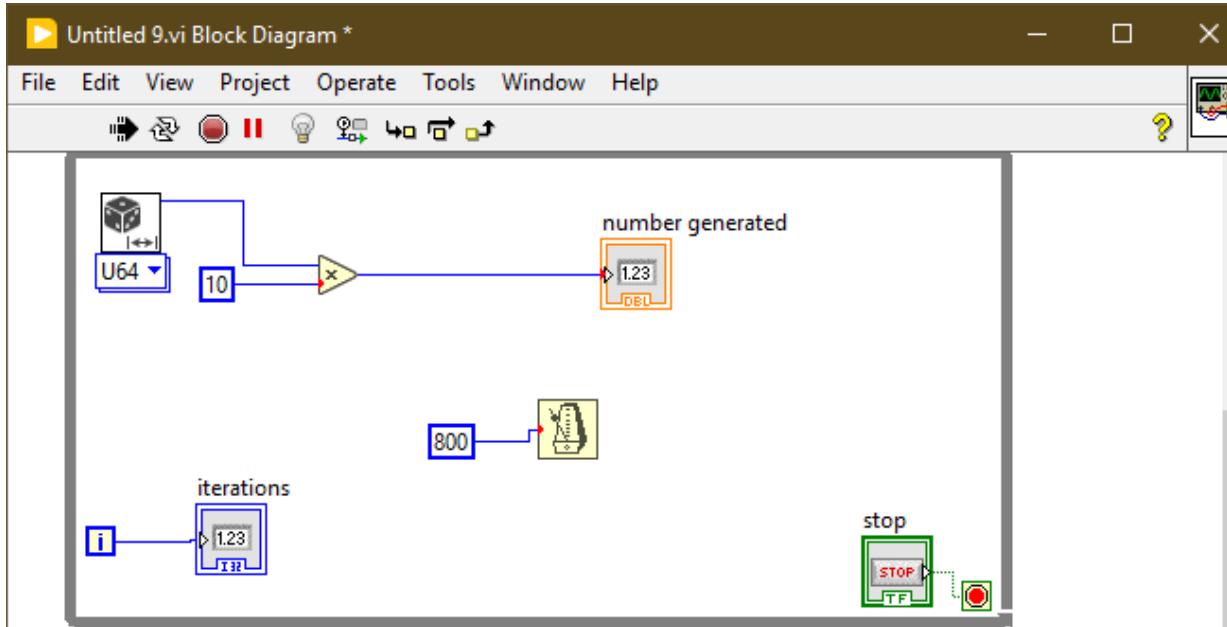


Lab session 24

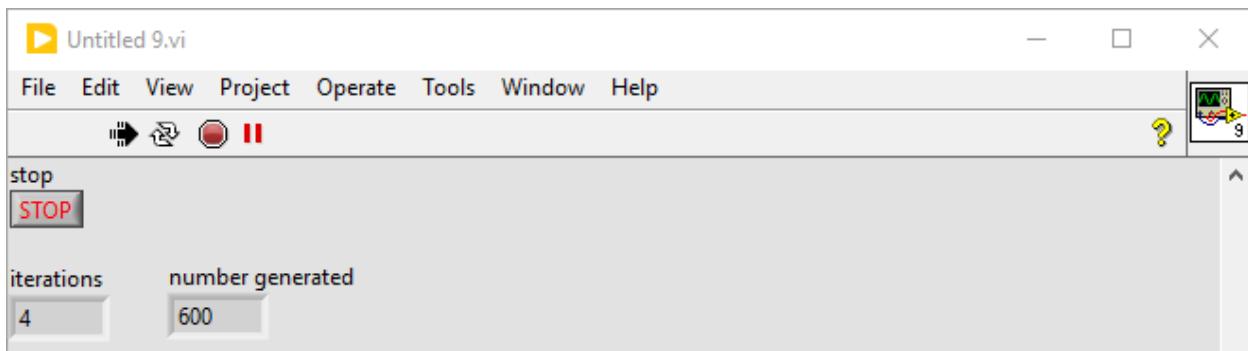
Objective:

- Use LabVIEW software to learn how loops are designed and work.
- To create a VI for the Multiplication of a random number with 10 and displaying the result continuously, until it is stopped.

Block Diagram:



Front Panel:

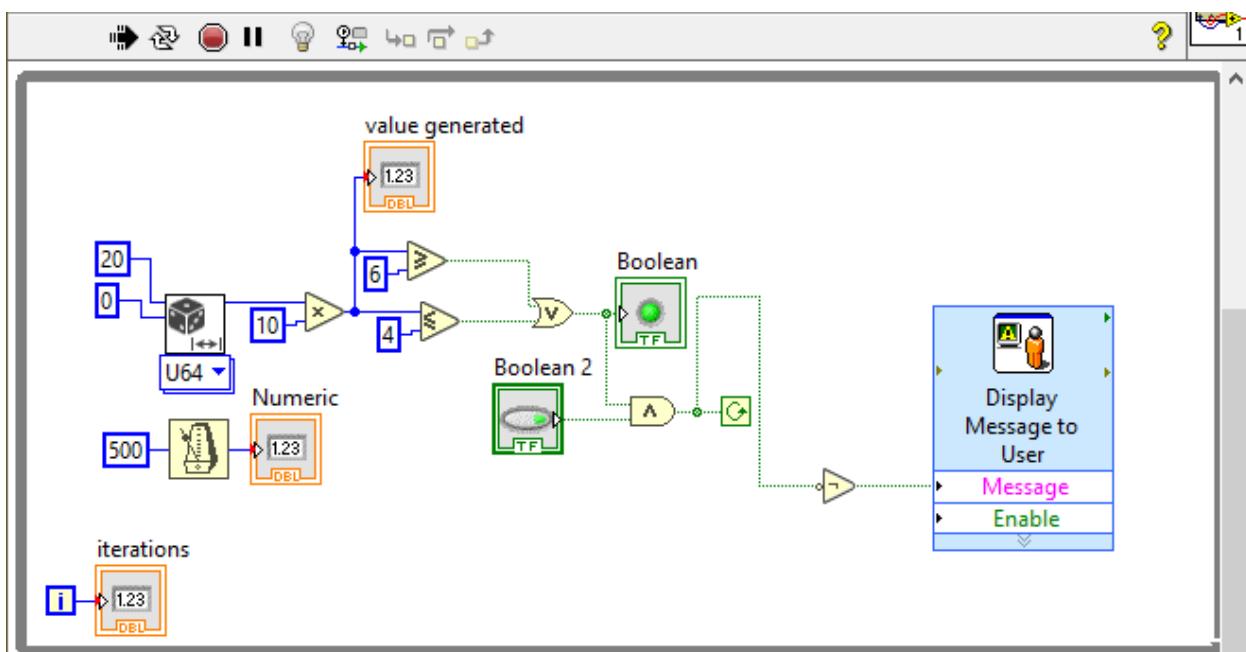


Lab session 25

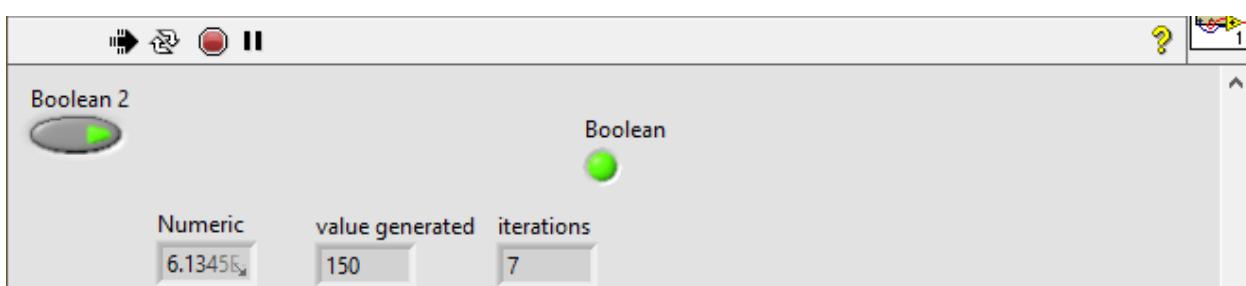
Objective: Use LabVIEW software to generate random numbers and multiply it with 10.

- If the answer is in between 4 and 6, then program should automatically abort.
- Also introduce a delay of 500 ms after each iteration and display the number of iterations that it took till the condition is met.
- As soon as the condition is met, a dialogue box should appear indicating that your required instance has occurred.

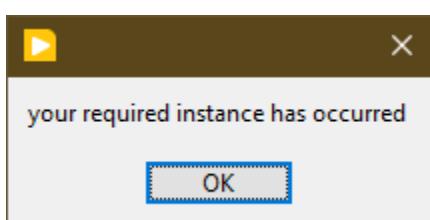
Block Diagram:



Front Panel:



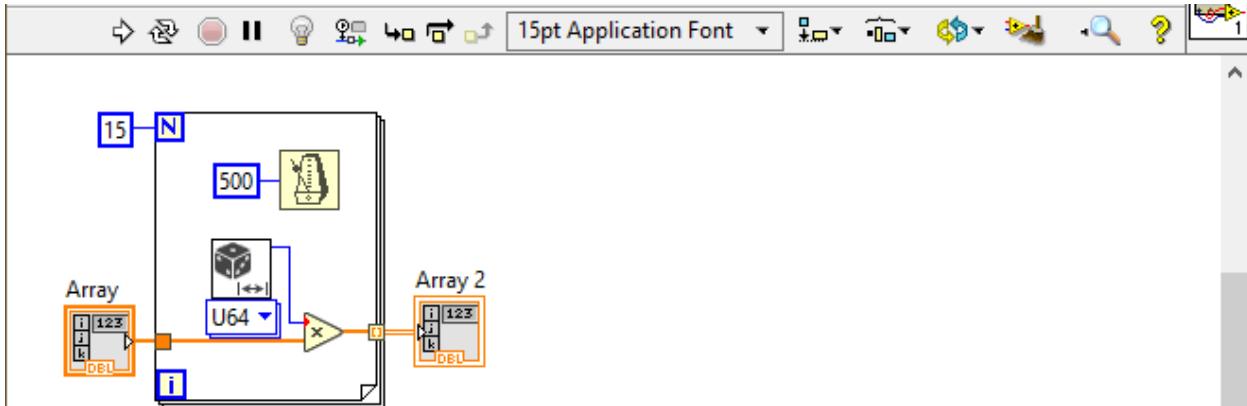
Dialog box message:



Lab session 26

Objective: Use LabVIEW software to design for loops and observe their working.

Block Diagram:



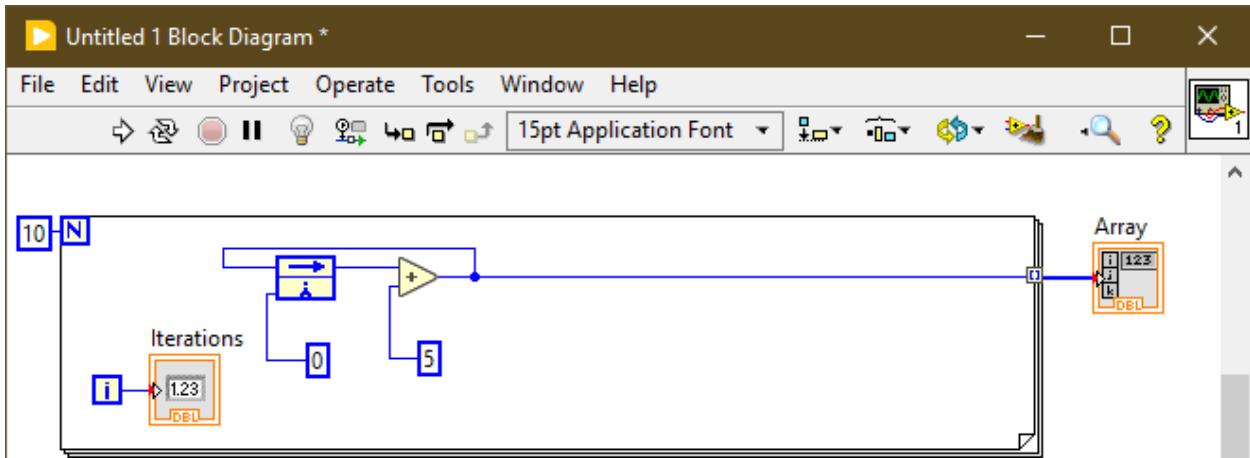
Front Panel:

The Front Panel displays two arrays and a large matrix. On the left, an array labeled 'Array' contains the following values: 0, 1, 3, 1, 0, 0, 0, 0. To its right is another array labeled 'Array 2' with the following values:

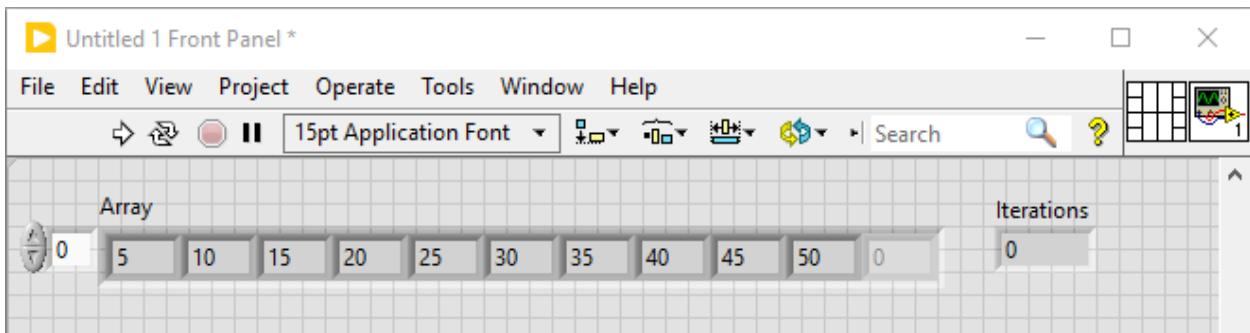
0	3	9	3	0	0	0	0	0
0	19	57	19	0	0	0	0	0
54	162	54	0	0	0	0	0	0
65	195	65	0	0	0	0	0	0
69	207	69	0	0	0	0	0	0
86	258	86	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
84	252	84	0	0	0	0	0	0
24	72	24	0	0	0	0	0	0
36	108	36	0	0	0	0	0	0
1	3	1	0	0	0	0	0	0
7	21	7	0	0	0	0	0	0
90	270	90	0	0	0	0	0	0
57	171	57	0	0	0	0	0	0
59	177	59	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

Objective: Add 5 repeatedly in a number and display result in the form of an array after ten iterations.

Block Diagram:



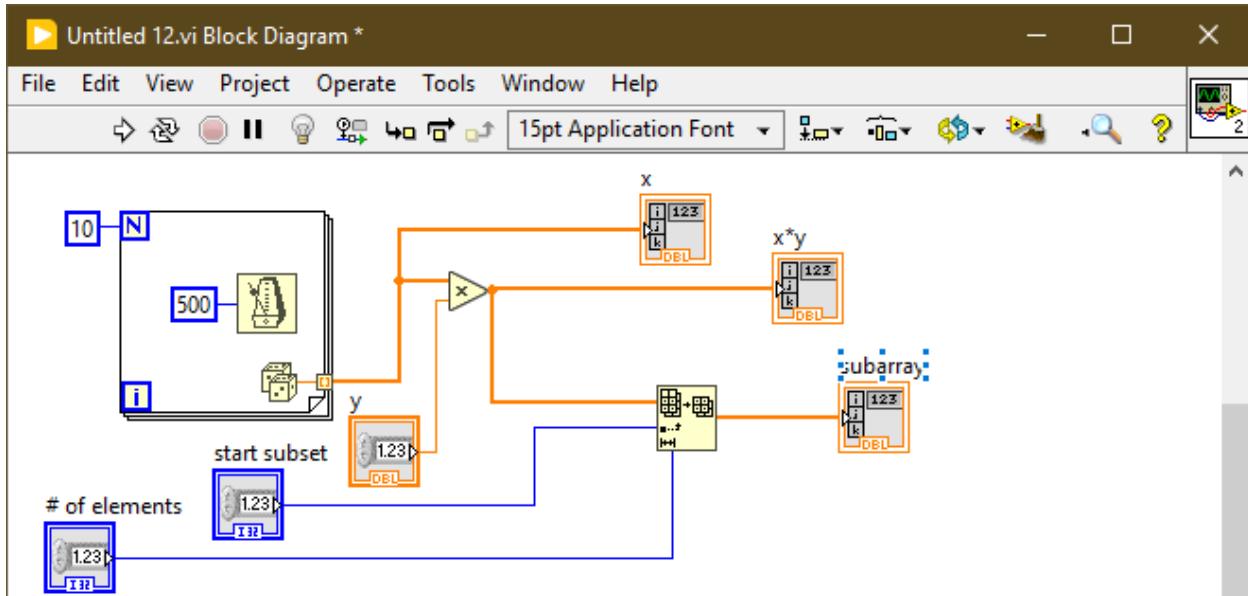
Front Panel:



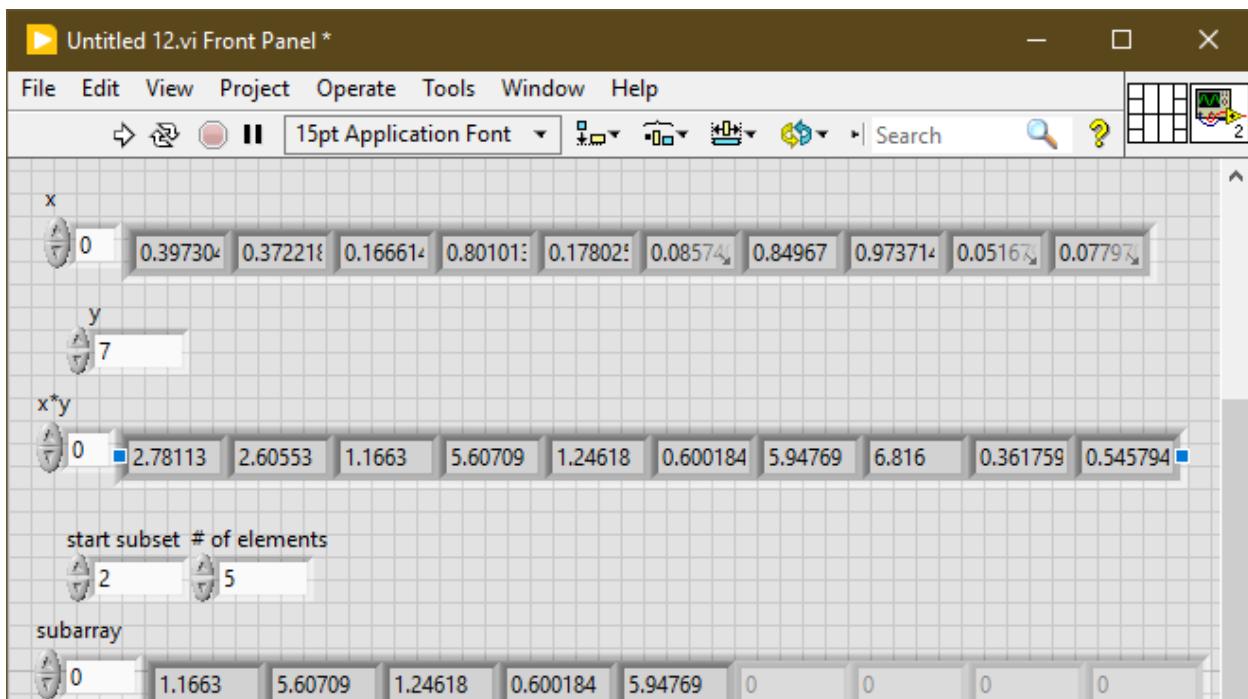
Lab session 27

Objective: Use LabVIEW software to design different functionalities of arrays

Block Diagram:

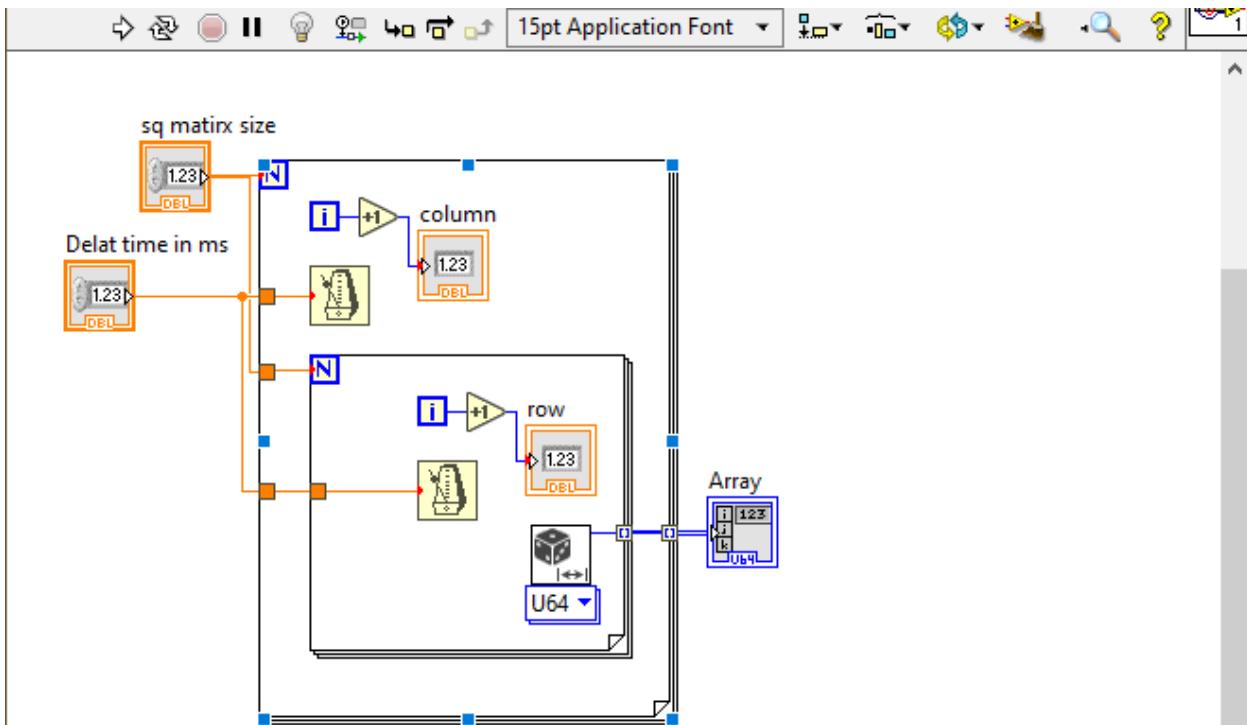


Front Panel:

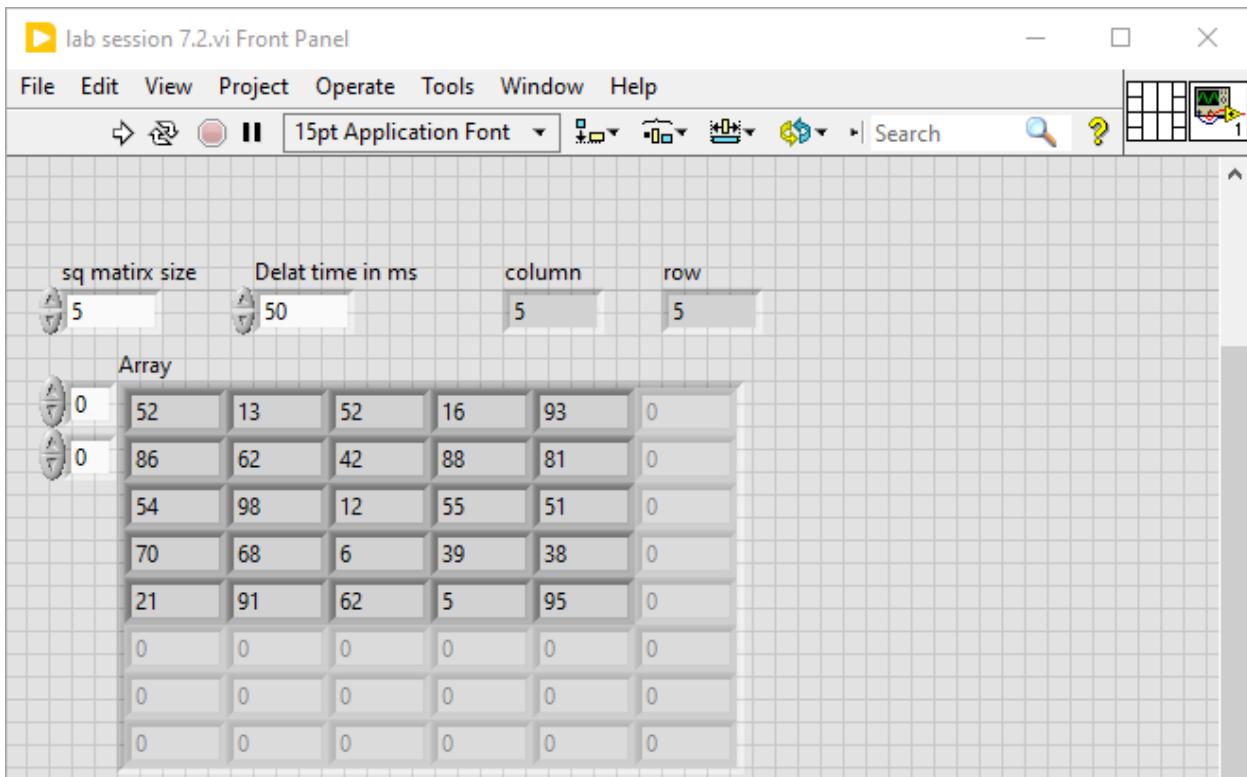


Objective: Create a two-dimensional array of the order 5x5

Block Diagram:

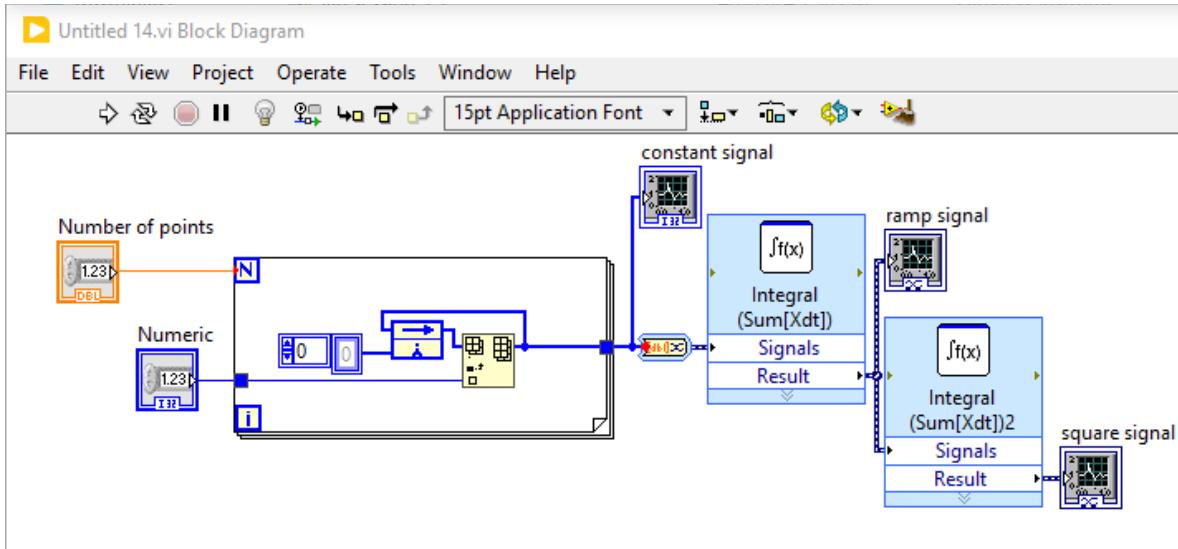


Front Panel:

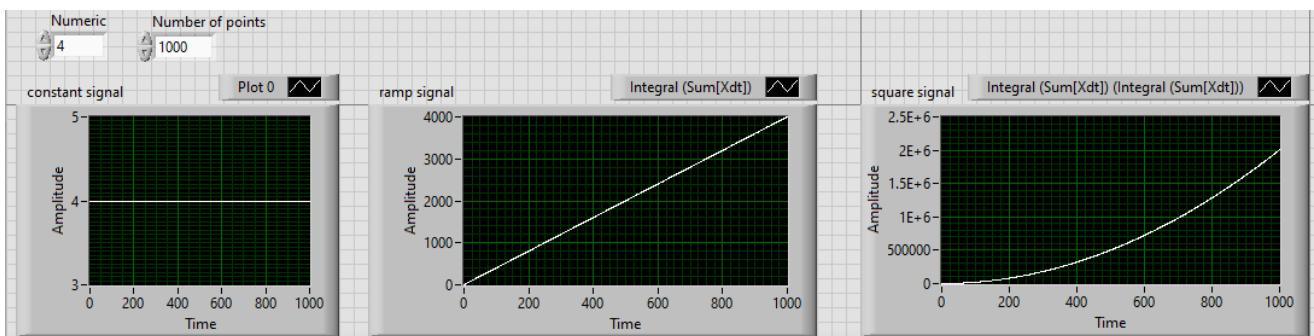


Objective: Verify that integral of constant is a ramp and integral of ramp is a square. Display the two results in separate arrays.

Block Diagram:



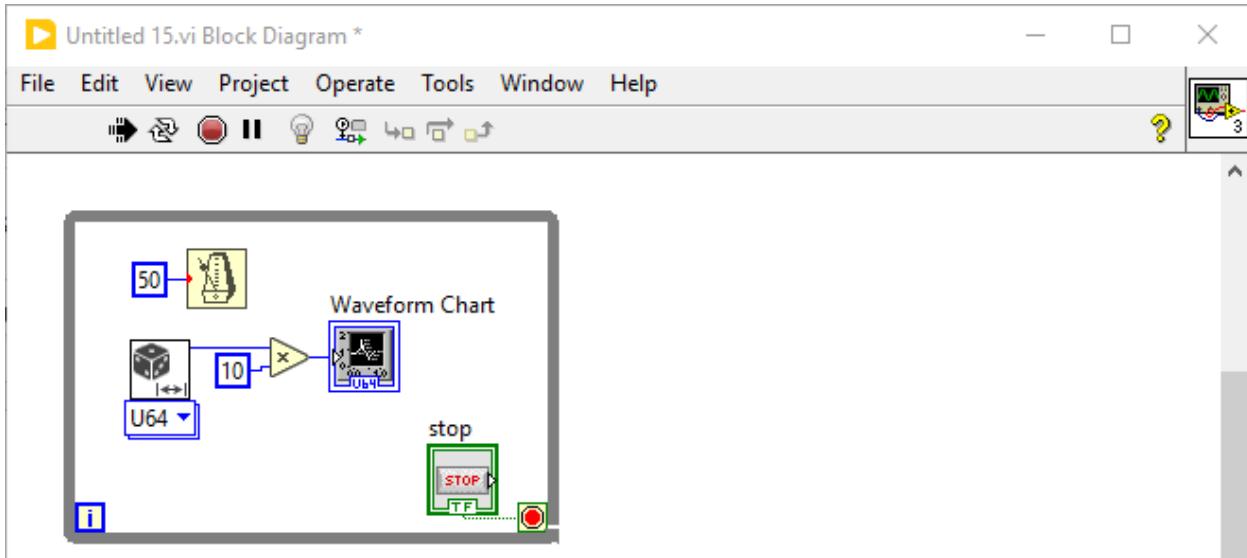
Front Panel:



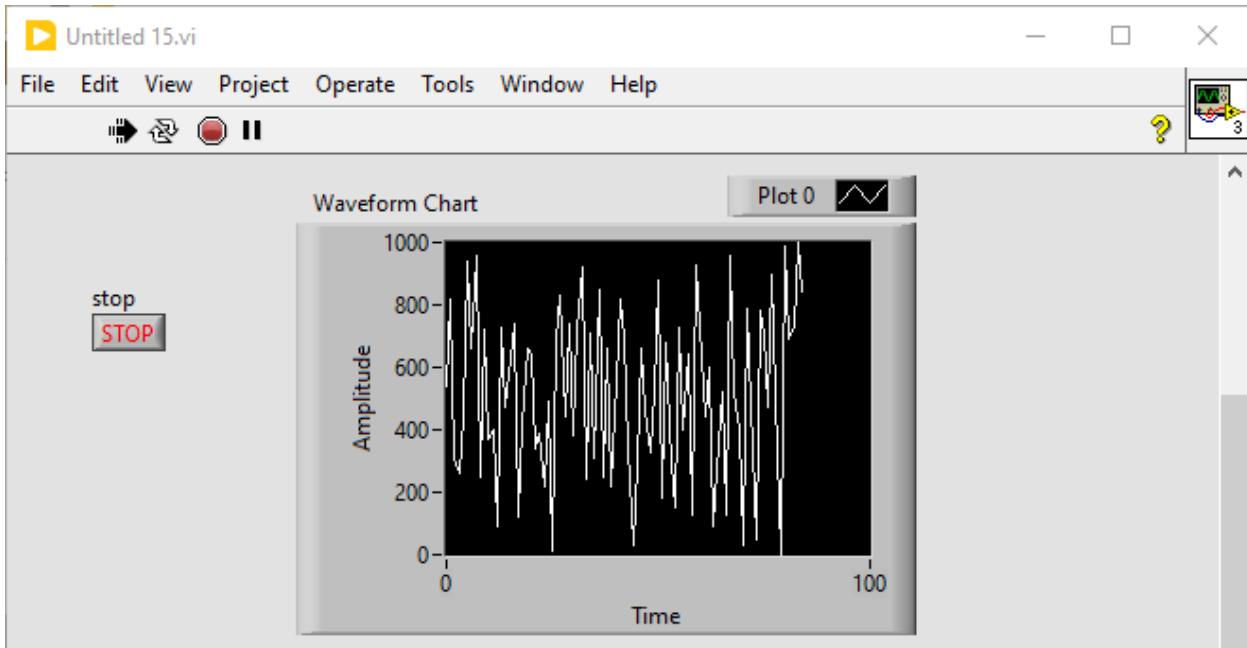
Lab session 28

Objective: Use LabVIEW software to display quantities on waveform charts and waveform graphs.

Block Diagram:

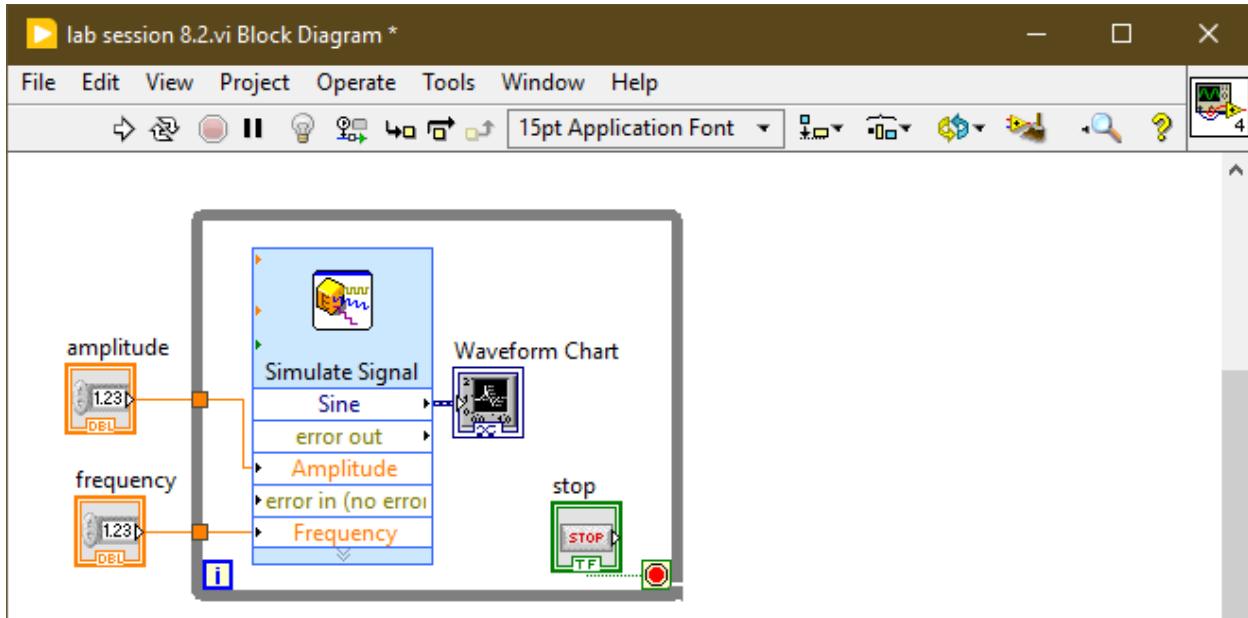


Front Panel:



Objective: Generate a sine wave and plot it on a wave chart form. Also double the amplitude of the generated sine wave and plot the two sine waves on the same waveform graph.

Block Diagram:



Front Panel:

