Experiment: 14

Study of Data Acquisition System Using Lab View Software.

PROCEDURE

Create an application to acquire data from signal generator using Lab View.

1) Open Lab View
   a. Accommodate vertically "Block diagram" and "Front Panel" "Block diagram" is used for writing source of code "Front Panel" is used for communication with operator while application is running.
   b. Place front panel, which accommodate controls and indicators for communication between running application and operator) for controls and indicators
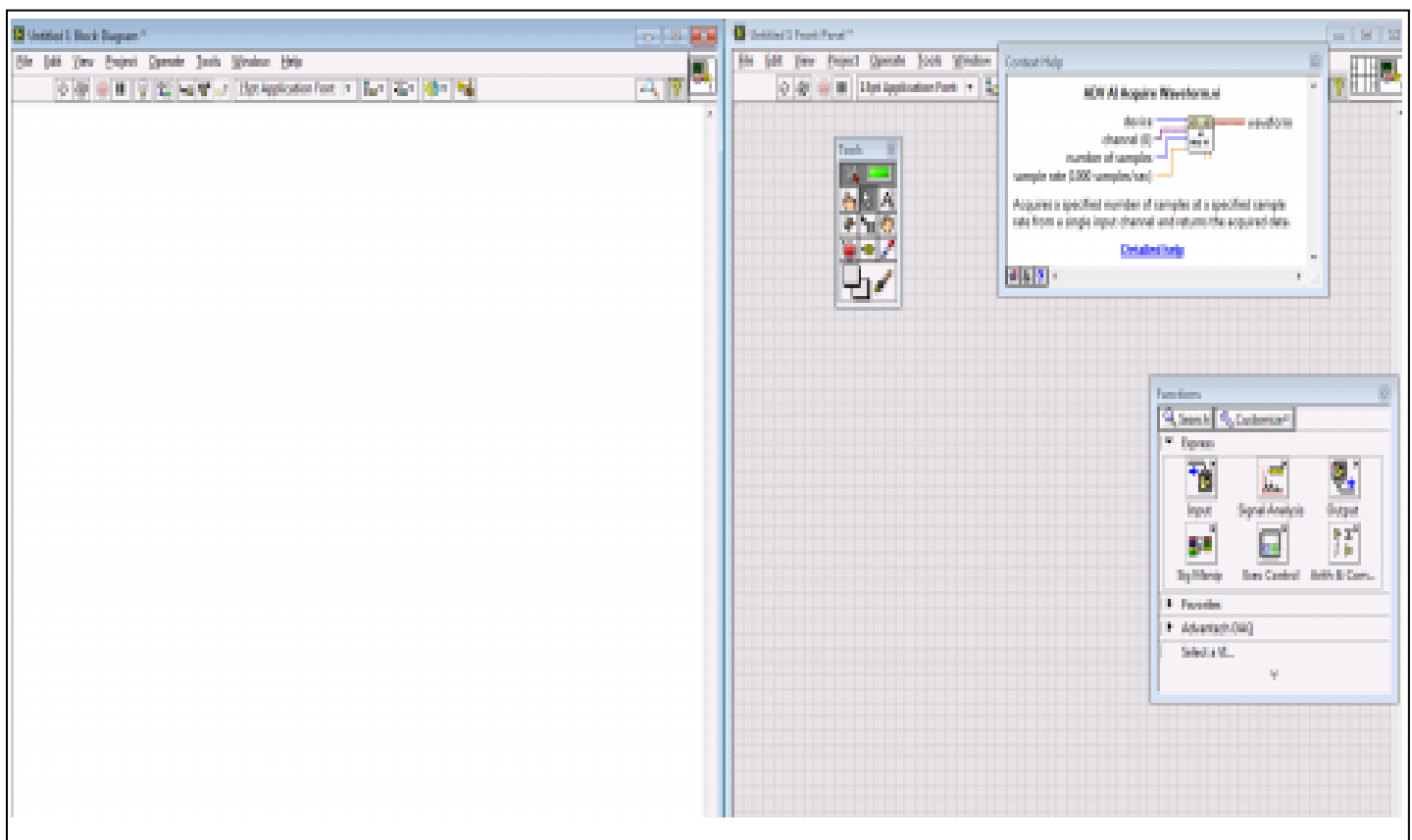   c. Activate tools palette and context help from toolbar

Figure 14.1 (LAB VIEW Front Panel)

2) "Block diagram" place a mouse courser somewhere in block diagram – right click and lab View functions will become available
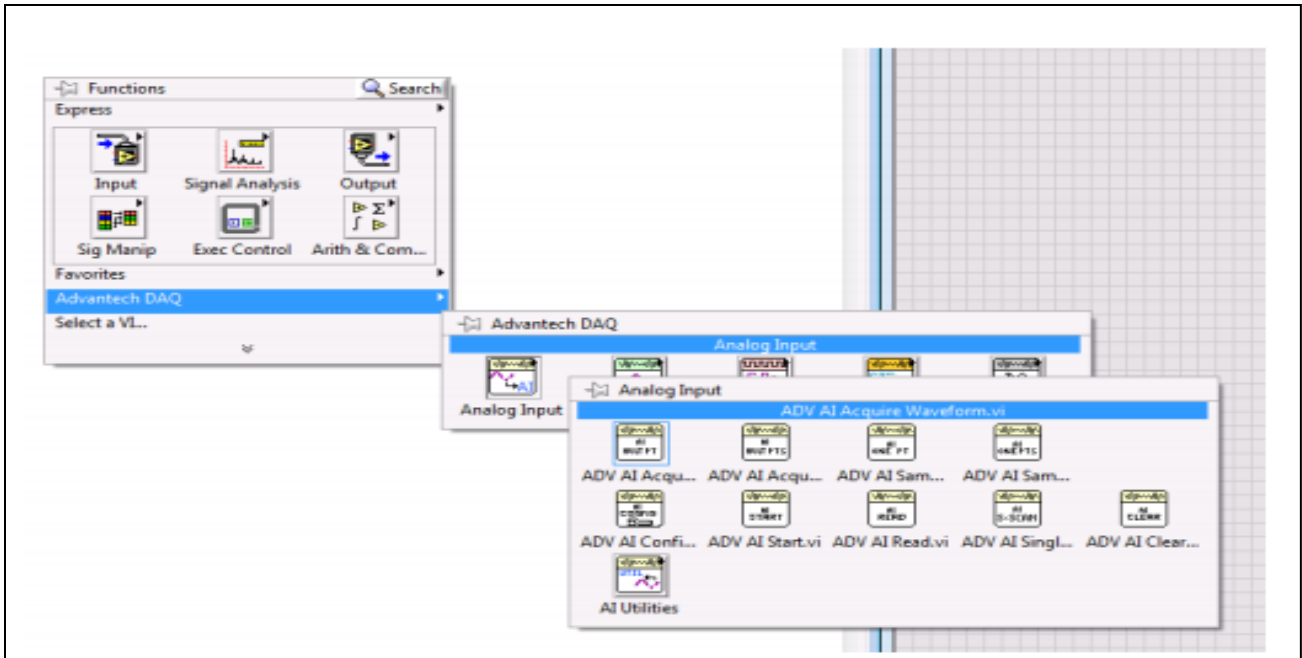
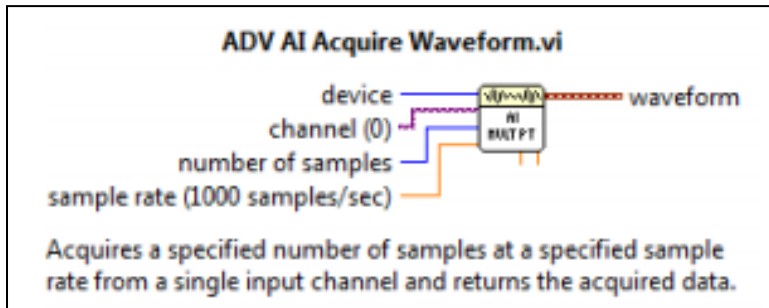**Figure 14.2 (LAB VIEW Function)**

3) Choose; left click and drag

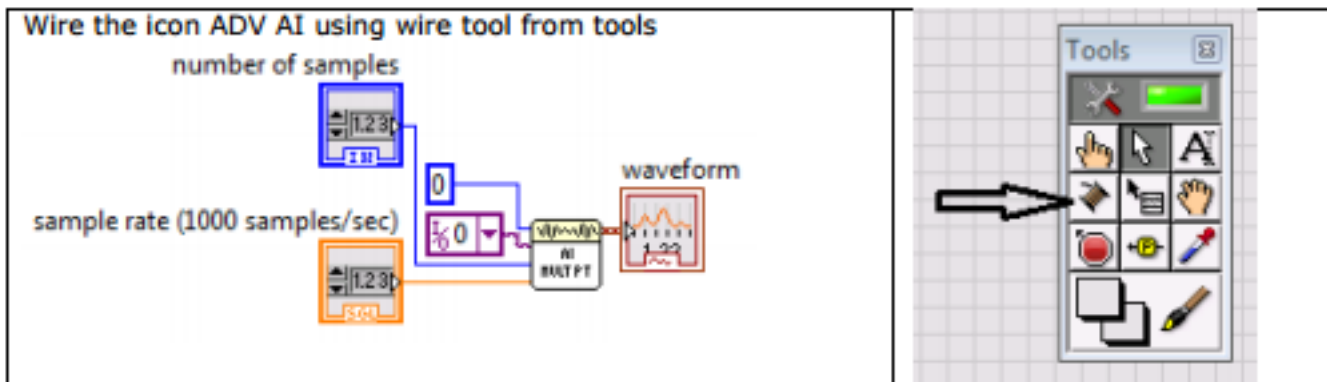**Figure 14.3 (Icon Setting)**

4) Wire the icon as below

Figure 14.4 (Wiring the Icons)

1. Applying: device as constant
2. Channel: as constant
3. Number of samples as control

4. Sample rate as control
5. Output as indicator

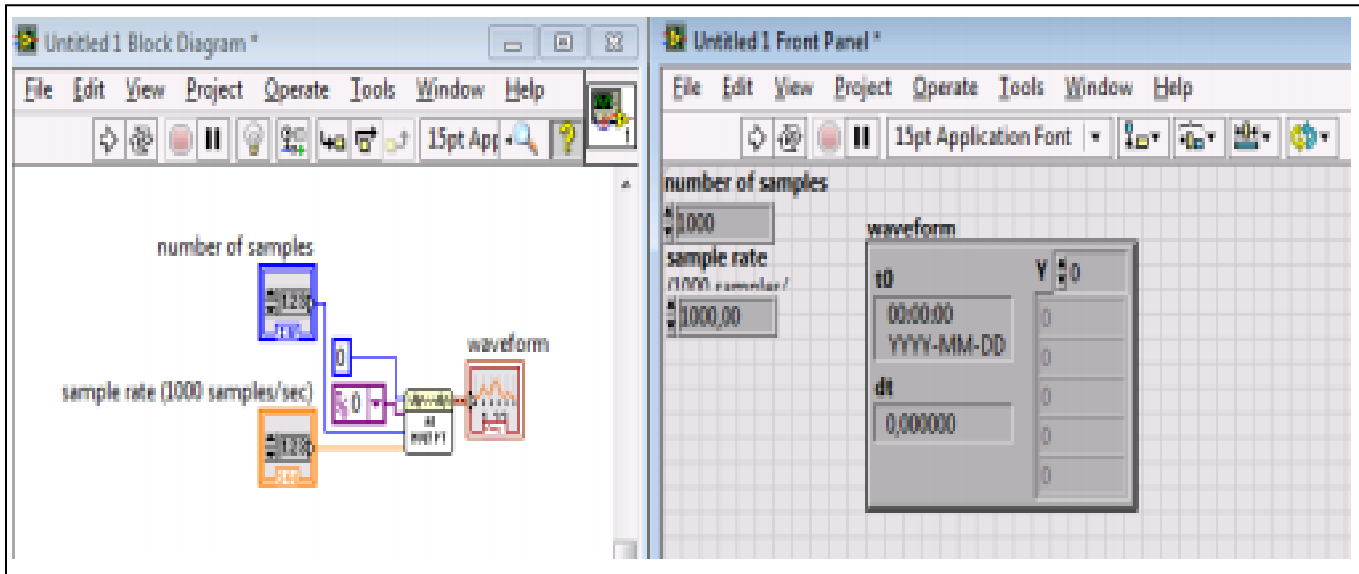**5)** The controls and indicators will appear on Front panel

Figure 14.5 (Controls and Indicators)

6) Press "white arrow" to run your first application in Lab View
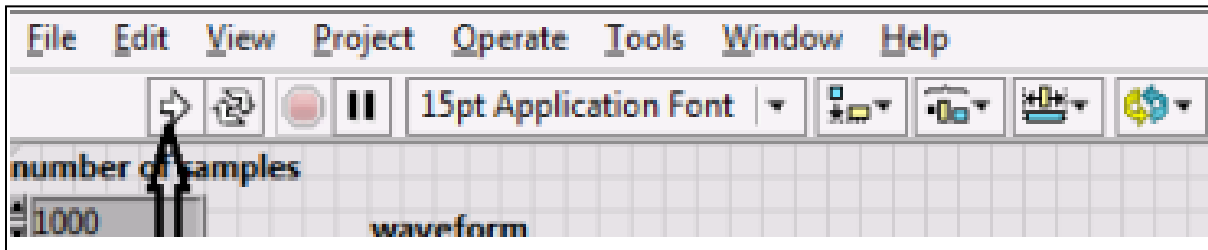

Figure 14.6 (Turning First Application)

7) Place mouse indicator somewhere in Front Panel and write click, chose Graph, press left button and drag "Graph" icon to Front Panel
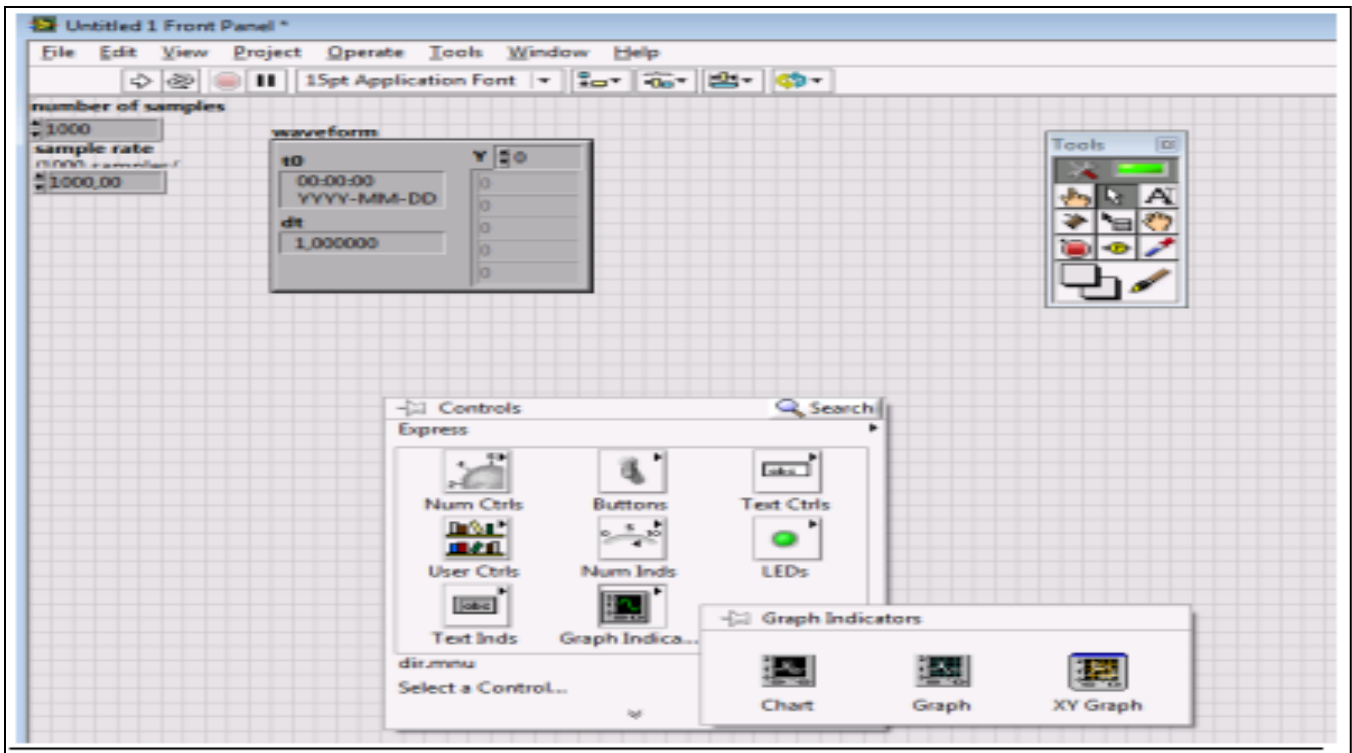
Figure 14.7 (Inserting Graph)

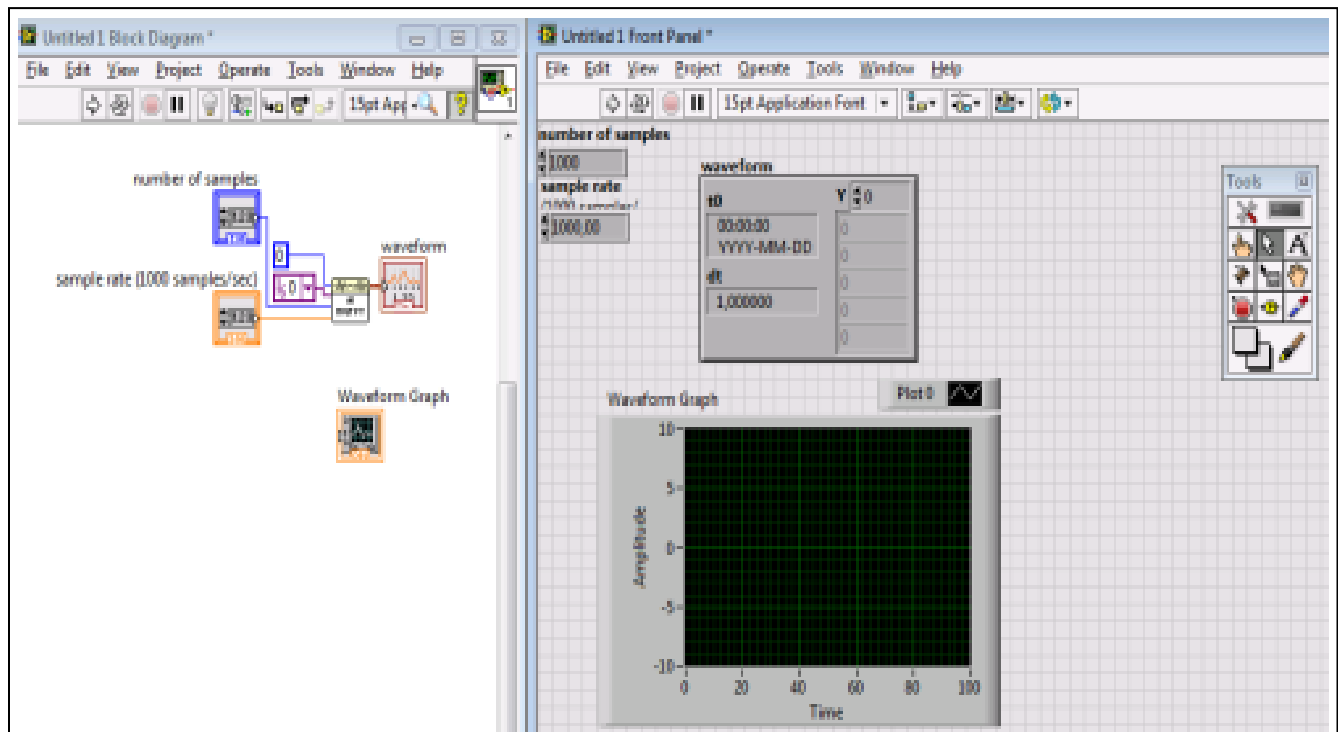**8)** Graph appears on Front panel and its icon for wiring on block diagram

Figure 14.8 (Presenting Graph)

9) Wire using "connect wire" tool wire: the out from "AI" icon to "Graph"
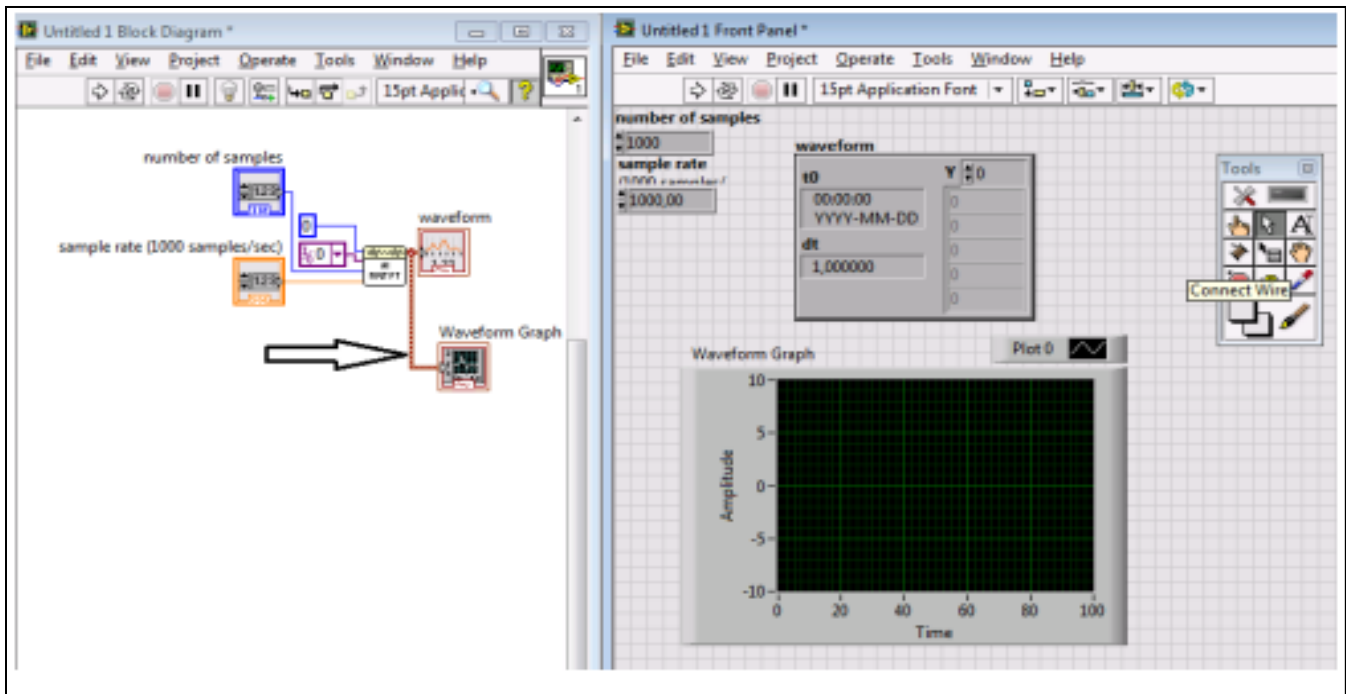
Figure 14.9 (Wiring Graph)

10) Run application with a number of samples 32 and sample rate 800/1600 while from signal.
Generator is a sin wave of 50 Hz and amplitude Vpp=2 V

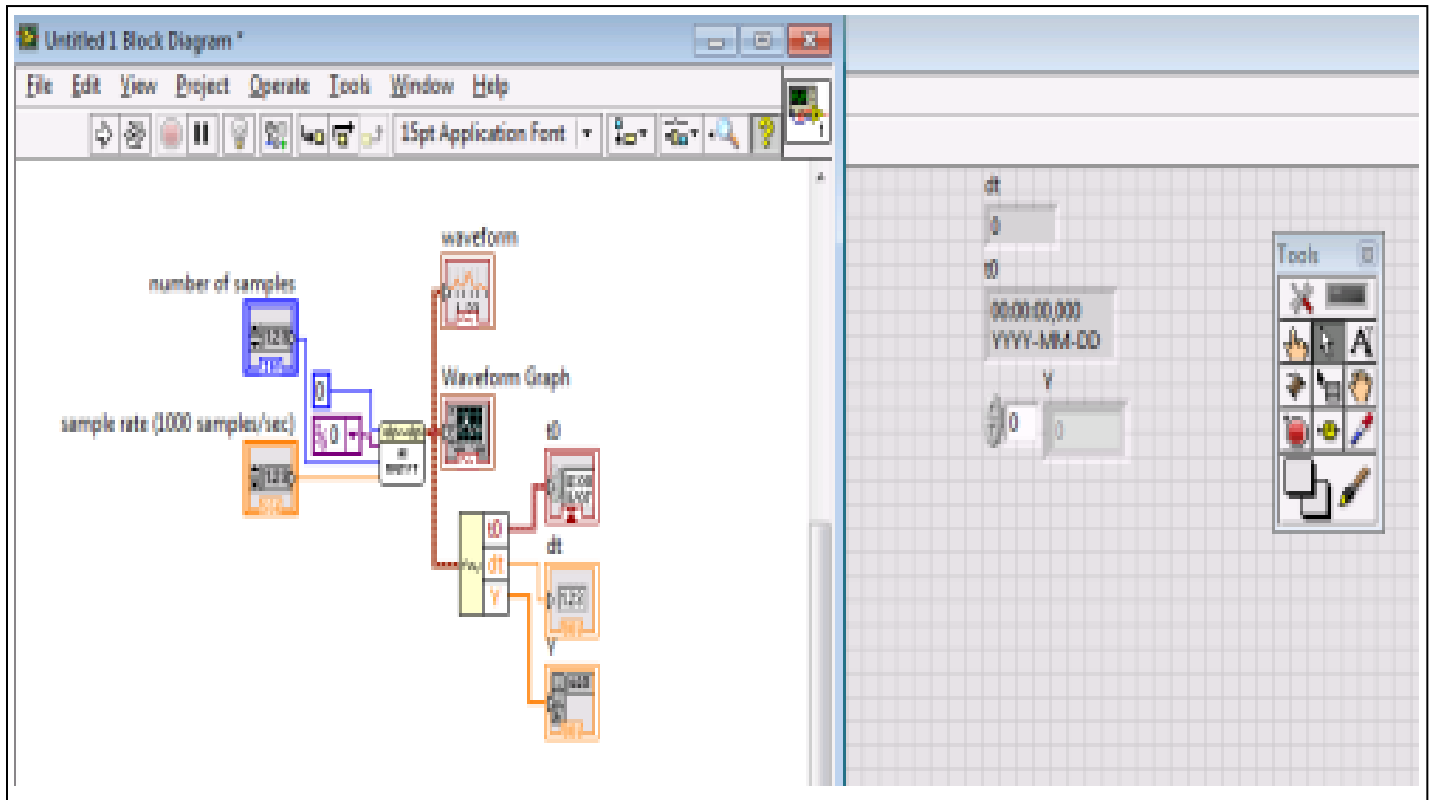**11)** Next gradually build up application so you obtain the following steps:
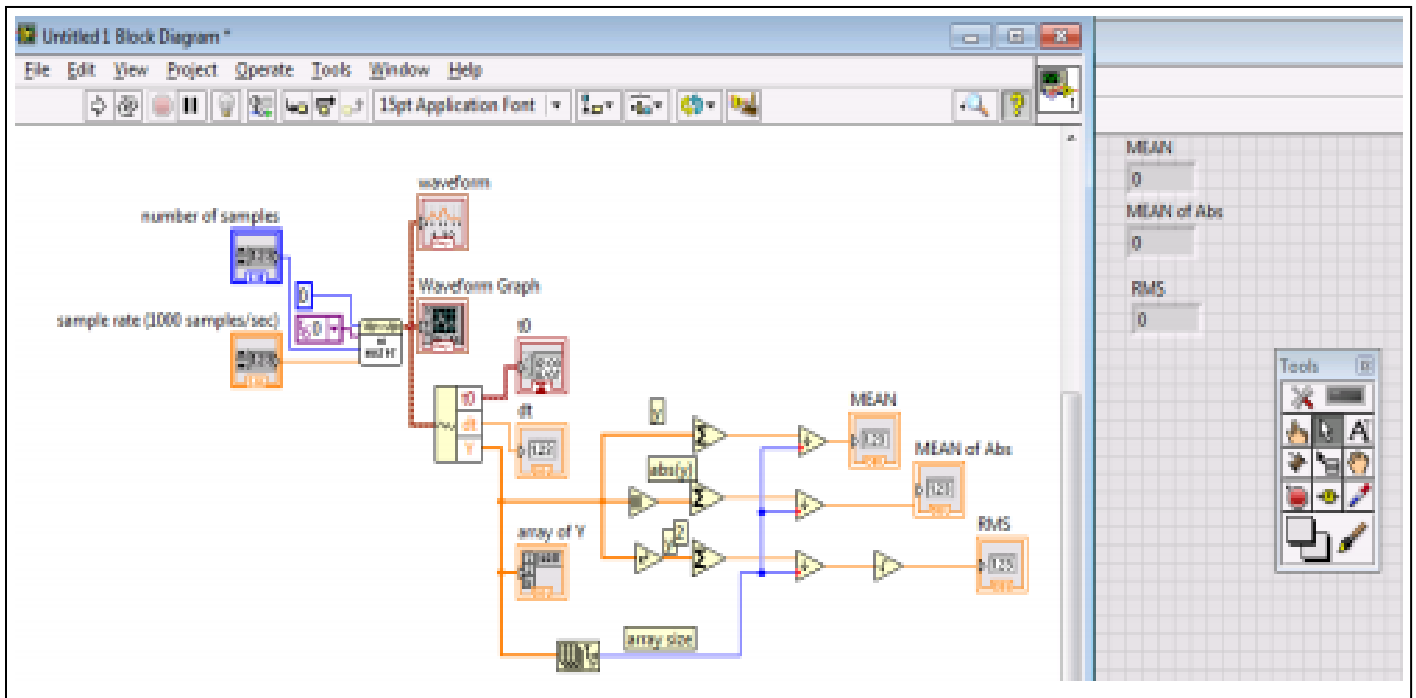

Figure 14.10

12) Next:

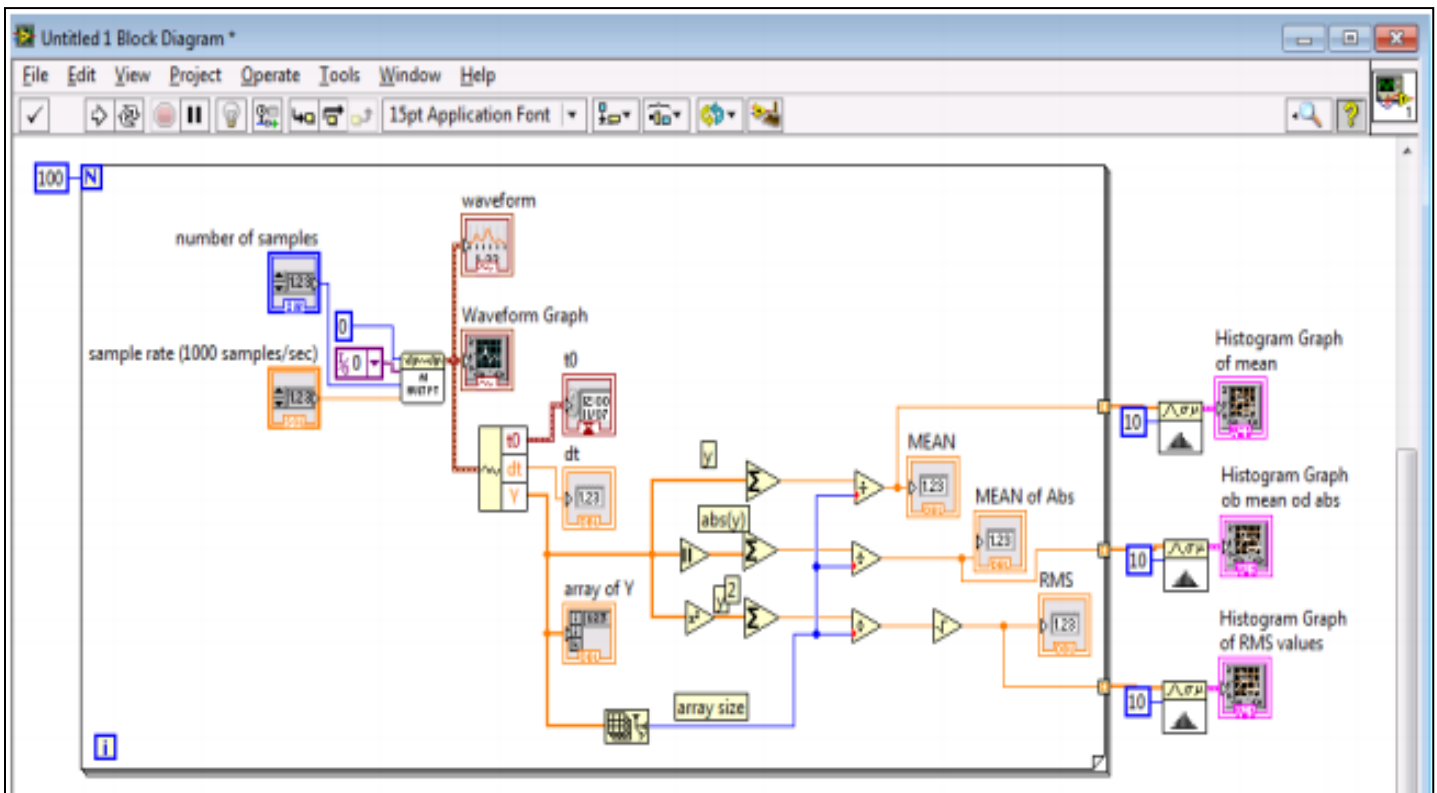**Figure 14.11**

And finally:

Figure 14.12 (Final Circuit)

In your report please, present results of data handling as screen snapshots and conclude how Lab View can support your data acquisition, data handling and data presentation.

CONCLUSION

Instructor Signature: _____ **Date:** _____