

**Certificate Course**  
**On**  
**LabVIEW Programming**

27.08.2021 to 17.09.2021

Coordinator: P.Durga Prasad



**K.S.R.M. COLLEGE OF ENGINEERING  
(UGC-AUTONOMOUS)**

**Kadapa, Andhra Pradesh, India – 516 005**

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**Department of Electrical and Electronics Engineering**

Lr. / KSRMCE / EEE / 2021-22 /

Date: 24.08.2021

To  
**The Principal,**  
K.S.R.M.College of Engineering (A), Kadapa.

**//THROUGH PROPER CHANNEL//**

**Sub: KSRMCE – (EEE) – Permission for Conducting a Certification Course on  
“LabVIEW Programming” for B.Tech V Semester Students – Request for Permission – Reg.**

Respected Sir,

It is being brought to your kind notice that, I P. Durga Prasad, Assistant Professor from Department of EEE is organizing a Certification Course on “**LabVIEW Programming**” for B.Tech V Semester students, from 27.08.2021 to 17.09.2021. In this regard, I request you to kindly permit for organizing the above mentioned certification course, for which kind of act I would be grateful to you sir.

The Resource persons of the workshop:

1. Dr.T. Mariprasath, Associate Professor in EEE, KSRMCE (A).

*Forwarded to Principal Sir*

*Amritha*

Thanking you Sir,

*P. Durga Prasad*  
Yours Faithfully  
(P. Durga Prasad)  
(Assistant Professor/EEE)

*Permitted*  
*U. S. S. mm/5*



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**Department of Electrical and Electronics Engineering**

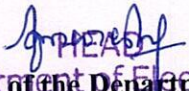
Cr./KSRMCE/(Department of E.E.E)/2021-22/

Date: 25.08.2021

**Circular**

It is hereby informed that the department of Electrical and Electronics Engineering is organizing a Certification Course on “**LabVIEW Programming**” for B.Tech V Semester students, from 27.08.2021 to 17.09.2021. The resource person is Dr.T. Mariprasath, Associate Professor in EEE,, KSRMCE.. In this Context, I request the students to register their names with the concerned coordinator on or before 26.08.2021. The details of the Workshop are as follows:

<b>Name of the Event</b>	Certification Course
<b>Name of the Course</b>	<b>LabVIEW Programming</b>
<b>Date(s)</b>	27.08.2021 to 17.09.2021
<b>Resource persons</b>	Dr.T. Mariprasath, Associate Professor in EEE,, KSRMCE.
<b>Venue</b>	KSRMCE-CRI
<b>Faculty Coordinator</b>	P. Durga Prasad, Assistant Professor in EEE, KSRMCE

  
Head of the Department  
Department of Electrical &  
Electronics Engineering  
K.S.R.M. College of Engineering  
Kadapa -516003.



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**Department of Electrical and Electronics Engineering**

**List of Registered Participants**

<b>Name of the Event</b>	Certification Course
<b>Name of the certification course</b>	<b>LabVIEW Programming</b>
<b>Date(s) of the Course</b>	27.08.2021 to 17.09.2021
<b>Timings</b>	03:00 PM to 5:00 PM
<b>Resource persons</b>	Dr.T. Mariprasath, Associate Professor in EEE,
<b>Venue</b>	KSRMCE-CRI
<b>Faculty Coordinator</b>	Mr. P. Durga Prasad, Assistant Professor in EEE

S.No	Roll Number	Name Of The Student	Signature
1	199Y1A0202	Bolisetty Venkata Charitha	Charitha
2	199Y1A0203	Bukkey Chandra Sekhar Naik	Chandra Sekhar
3	199Y1A0204	Busireddy Parvathammagari Ekshitha	Parvathammagari
4	199Y1A0205	Chilumuri Malleswari	C. Malleswari
5	199Y1A0206	Chinnadi Pramod Joshi	C. Pramod Joshi
6	199Y1A0207	Chittiboina Hari Prasad	C. Hari Prasad
7	199Y1A0208	Chowdam Mohan Krishna	Mohan Krishna
8	199Y1A0209	Derangula Naveen Sai	D. Naveen Sai
9	199Y1A0210	Dodda Mareppa Gari Boje Gowd	Boje Gowd
10	199Y1A0211	Dudekula Karishma	Karishma
11	199Y1A0212	Durnoothala Reddyvari Gayathri	Gayathri
12	199Y1A0213	Gandham Nithya Chandana	G. Nithya Chandana



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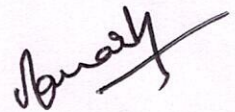
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S.No	Roll Number	Name Of The Student	Signature
13	199Y1A0246	Sirigireddy Hari Krishna Reddy	Harikrishna
14	199Y1A0247	Sunkesala Yeswanth Reddy	S. Yeswanth Reddy
15	199Y1A0248	Syed Asma Farheen (W)	ASma Farheen
16	199Y1A0249	Syed Khamar Hussain	Hussain
17	199Y1A0250	Tadigotla Sowmya (W)	Tadigotla Sowmya
18	199Y1A0251	Thummaluri Jyothi Bhargavi	Bhargavi
19	199Y1A0252	Tirumala Setty Prudhula	Setty Prudhula
20	199Y1A0253	Valluru Divya Teja	Teja
21	199Y1A0254	Vutukuru Kranti Kumar Reddy	Kranti Kumar Reddy
22	199Y1A0255	Yakkaluru Chandrika	Y Chandrika
23	199Y1A0256	Yaparala Yeshaswini	Yeshaswini
24	199Y1A0257	Yerragudipadu Chandra Kala	Chandra Kala
25	209Y5A0201	Beri Swathi	Beri Swathi
26	209Y5A0202	Chiranjeevi Rakesh	Rakesh
27	209Y5A0203	Kotagula Mohammad Ali	Mohammad Ali

  
Coordinator

  
Head of the Department

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**Department of Electrical and Electronics Engineering  
LabVIEW Programming  
(certification Course)**

**Course Learning Objectives: To Acquire basic knowledge of LabVIEW programming concepts and its applications.**

**Module 1: INTRODUCTION TO LabVIEW**

**(10hrs)**

Introduction- Software Environment-Front Panel Windows-Block Diagram Window-Icon/Connector Pane- Creating and Saving a VI- Front Panel Toolbar- Block Diagram Toolbar-Palettes-Shortcut Menus-Property Dialog Boxes- Front Panel Controls and Indicators- Block Diagram-Data Types- Data Flow Program-Icon And Connector Pane- Building a Connector Pane- Displaying SubVIs and Express VIs as Icons Or- Creating SubVIs from Sections of A VI.

**Module 2: REPETITION AND LOOPS**

**(10hrs)**

For Loops-While Loops-Structure Tunnels-Terminals Inside Or Outside Loops - Shift Registers-Feedback Nodes- Control Timing-Array- One-Dimensional Array-Two-Dimensional Arrays-Creating Multidimensional Arrays- Array Operations-Matrix Operations With Arrays- Clusters- Creating Cluster Controls and Indicators- Creating Cluster Constant- Conversion Between Arrays and Clusters- Plotting Data- Waveform Graph-Charts- Waveform Data Type- Intensity Graphs and Charts

**Module 3 : Application of LabVIEW**

**(10hrs)**

Build a VI to generate sine waveform- LabVIEW: User Login Interface- Count LED/Relay Turn On/Off- Temperature Sensing Using LabVIEW- TRAFFIC LIGHT SIGNAL USING LabVIEW- Animated Fan Speed Control in LabVIEW- NI-DAQmx multi-channel data acquisition LabVIEW program

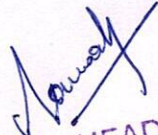
**Course outcomes:**

Successfully completion of course students able to

1. Understand the fundamentals of Virtual Instrumentation and data Acquisition.
2. Analyze array operations using loops and develop a simple programs for own problem
3. Design and develop simple program for data acquisition

**Reference:**

1. Jovitha Jerome, "VIRTUAL INSTRUMENTATION USING LabVIEW", PHI Learning Private Limited 2010.

  
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**Department of Electrical and Electronics Engineering**

**Certification Course  
on  
LabVIEW Programming**

S.no	Date	Topic	No. of Hours
<b>Module-1</b>			
1	27.08.2021	Block Diagram Window-Icon/Connector Pane	2
2	28.08.2021	Creating and Saving a VI- Front Panel Toolba	2
3	30.08.2021	Block Diagram Toolbar-Palettes-Shortcut Menus-Property Dialog Boxes	2
4	31.08.2021	Front Panel Controls and Indicators	2
5	01.09.2021	Data Flow Program	2
<b>Module-2</b>			
6	02.09.2021	For Loops,Structure Tunnels,Shift Registers	2
7	03.09.2021	While Loops,Structure Tunnels,Shift Registers	2
8	04.09.2021	Two-Dimensional Arrays-Creating Multidimensional Arrays-Array Operations	2
9	06.09.2021	Matrix Operations With Arrays- Clusters- Creating Cluster Controls and Indicators- Creating Cluster Constant	2
10	07.09.2021	Conversion Between Arrays	2
11	08.09.2021	Clusters- Plotting Data- Waveform Graph-Charts- Waveform Data Type- Intensity Graphs and Charts	2
<b>Module-3</b>			
12	09.09.2021	VI to generate sine waveform	2
13	13.09.2021	Count LED/Relay Turn On/Off	2
14	15.09.2021	Traffic Light Signal Using LabVIEW	2
15	16.09.2021	NI-DAQmx multi-channel data acquisition LabVIEW program	2
16	17.09.2021	NI-DAQmx multi-channel data acquisition LabVIEW program	2
		Total	32

**T.M**  
Resource Person

Dr.T. Mariprasath, Associate Professor in EEE,



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Roll Number	27.8	28.8	30.8	31.8	1.9	2.9	3.9	4.9	6.9	7.9	8.9	9.9	13.9	15.9	16.9	17.9
199Y1A0246	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P
199Y1A0247	P	P	P	A	P	P	P	P	P	P	P	A	P	P	P	A
199Y1A0248	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0249	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0250	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0251	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P
199Y1A0252	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0253	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0254	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
199Y1A0255	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0256	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0257	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
209Y5A0201	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P







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## Department of Electrical and Electronics Engineering

### Attendance Sheet

Roll Number	27.8	28.8	30.8	31.8	1.9	2.9	3.9	4.9	6.9	7.9	8.9	9.9	13.9	15.9	16.9	17.9
199Y1A0202	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
199Y1A0203	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P
199Y1A0204	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0205	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0206	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0207	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
199Y1A0208	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0209	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0210	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
199Y1A0211	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
199Y1A0212	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
199Y1A0213	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P





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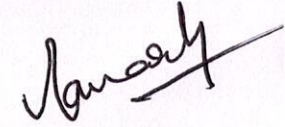
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Roll Number	27.8	28.8	30.8	31.8	1.9	2.9	3.9	4.9	6.9	7.9	8.9	9.9	13.9	15.9	16.9	17.9
209Y5A0202	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
209Y5A0203	P	P	P	P	P	P	P	P	P	P	A	P	P	P	A	P

  
Coordinator



Head of The Department

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**Department of Electrical and Electronics Engineering**  
**Organising**  
**Certification Course on**  
**LabVIEW Programming**

**From**

**27.08.2021 to 17.09.2021**

**Resource Person**

**Dr.T. Mariprasath**

**Assistent Professor,**

**EEE-Dept**

**Venue**

**KSRMCE-CRI**

**Faculty Coordinator**

**Mr. P.Durga Prasad,**

**Assistant Professor,**

**EEE-Dept**



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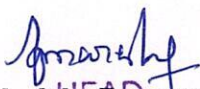
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**Department of Electrical and Electronics Engineering  
Activity Report**

<b>Name of the Event</b>	Certification Course
<b>Name of the workshop</b>	<b>LabVIEW Programming</b>
<b>Date(s) of the workshop</b>	27.08.2021 to 17.09.2021
<b>Target Audience</b>	B.Tech V Semester Students
<b>Number of Students Participated</b>	27
<b>Resource Persons</b>	Dr.T. Mariprasath, Associate Professor in EEE,
<b>Organizer/Supporting Team</b>	Mr. P. Durga Prasad, Assistant Professor in EEE
<b>Report</b>	<p>The main objective of this workshop was to upgrade the skills of the students but it also provided a common platform to explore the use of Virtual Instrumentation and Design aspects using simulation with the help of NI LabVIEW.</p> <p>The following areas were covered with hands-on exposure to the software :</p> <ul style="list-style-type: none"><li>• Brief overview of LabVIEW and its applications.</li><li>• For Loops with various examples</li><li>• Shift Registers and its applications</li><li>• Conditional While Loops</li><li>• Hierarchical designing using Sub-VI</li></ul>
<b>Photos</b>	

  
Coordinator

  
Head of the Department  
Department of Electrical &  
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## Department of E.E.E

### COURSE COMPLETION CERTIFICATE ON LABVIEW PROGRAMMING

This is to certify that Derangula Naveen Sai has participated in "LabVIEW Programming" , During 27.08.2021 to 17.09.2021 organised by the Department of Electrical and Electronics Engineering, K.S.R.M. College of Engineering (Autonomous), Kadapa

Dr. K. Amaresh  
HOD, EEE

Dr. V.S.S. Murthy  
Principal



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## Department of E.E.E

### COURSE COMPLETION CERTIFICATE ON LABVIEW PROGRAMMING

This is to certify that Syed Khamar Hussain has participated in "LabVIEW Programming" , During 27.08.2021 to 17.09.2021 organised by the Department of Electrical and Electronics Engineering, K.S.R.M. College of Engineering (Autonomous), Kadapa

Dr. K. Amaresh  
HOD, EEE

Dr. V.S.S. Murthy  
Principal

# Feedback on Certification Course on “LabVIEW”

\* Required

1. Roll Number \*

---

2. Name of the Student \*

---

3. Is the course content met your expectation \*

*Mark only one oval.*

Yes

No

4. Is the lecture sequence well planned \*

*Mark only one oval.*

Yes

No

5. The contents of the course is explained \*  
with examples

*Mark only one oval.*

Agree

Strongly Agree

disagree

6. Is the course exposed you to the new knowledge and practices \*

Mark only one oval.

- Agree
- Strongly Agree
- Disagree

7. Is the lecturer clear and easy to understand \*

Mark only one oval.

- Agree
- Strongly Agree
- disagree

8. Rate the value of course in increasing your skills \*

Mark only one oval.

- 1
- 2
- 3
- 4
- 5



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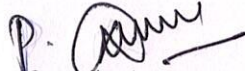
**Department of Electrical & Electronics Engineering  
Feedback of students on Certification Course on "LabVIEW"**

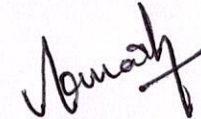
S.No	Roll Number	Name of the Student	Is the course content met your expectation	Is the lecture sequence well planned	The contents of the course is explained with examples	Is the course exposed you to the new knowledge and practices	Is the lecturer clear and easy to understand	Rate the value of course in increasing your skills
1	199Y1A0202	Bolisetty Venkata	Yes	Yes	Agree	Strongly agree	Agree	5
2	199Y1A0203	Bukkey Chandra Sekhar	Yes	Yes	Agree	Strongly agree	Agree	5
3	199Y1A0204	Busireddy	Yes	Yes	Agree	Strongly agree	Agree	5
4	199Y1A0205	Chilumuri Malleswari	Yes	Yes	Agree	Strongly agree	Agree	5
5	199Y1A0206	Chinnadi Pramod Joshi	Yes	Yes	Agree	Strongly agree	Agree	5
6	199Y1A0207	Chittiboina Hari Prasad	Yes	Yes	Agree	Strongly agree	Agree	5
7	199Y1A0208	Chowdam Mohan	Yes	Yes	Strongly	Strongly agree	Strongly agree	3
8	199Y1A0209	Derangula Naveen Sai	Yes	Yes	agree	Strongly agree	agree	4
9	199Y1A0210	Dodda Mareppa Gari	Yes	Yes	Strongly	Strongly agree	Strongly agree	5
10	199Y1A0211	Dudekula Karishma	Yes	Yes	Strongly	Strongly agree	Strongly agree	5
11	199Y1A0212	Durnoothala Reddyvari	Yes	Yes	Agree	Strongly agree	Agree	4
12	199Y1A0213	Gandham Nithya	Yes	Yes	agree	Strongly agree	agree	5
13	199Y1A0246	Sirigireddy Hari	Yes	Yes	agree	Strongly agree	agree	5
14	199Y1A0247	Sunkesala Yeswanth	Yes	Yes	agree	Strongly agree	agree	4
15	199Y1A0248	Syed Asma Farheen (W)	Yes	Yes	agree	Strongly agree	agree	4
16	199Y1A0249	Syed Khamar Hussain	Yes	Yes	agree	Strongly agree	agree	4
17	199Y1A0250	Tadigotla Sowmya (W)	Yes	Yes	agree	Strongly agree	agree	5
18	199Y1A0251	Thummaluri Jyothi	Yes	Yes	agree	Strongly agree	agree	5
19	199Y1A0252	Tirumala Setty Prudhula	Yes	Yes	Strongly	Strongly agree	Strongly agree	5
20	199Y1A0253	Valluru Divya Teja	Yes	Yes	Strongly	Strongly agree	Strongly agree	4

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Department of Electrical & Electronics Engineering  
Feedback of students on Certification Course on "LabVIEW"

S.No	Roll Number	Name of the Student	Is the course content met your expectation	Is the lecture sequence well planned	The contents of the course is explained with examples	Is the course exposed you to the new knowledge and practices	Is the lecturer clear and easy to understand	Rate the value of course in increasing your skills
21	199Y1A0254	Vutukuru Kranti Kumar	Yes	Yes	Strongly	Strongly agree	Strongly agree	3
22	199Y1A0255	Yakkaluru Chandrika	Yes	Yes	agree	Strongly agree	agree	4
23	199Y1A0256	Yaparala Yeshaswini	Yes	Yes	agree	Strongly agree	agree	4
24	199Y1A0257	Yerragudipadu Chandra	Yes	Yes	Strongly	Strongly agree	Strongly agree	4
25	209Y5A0201	Beri Swathi	Yes	Yes	agree	Strongly agree	agree	5
26	209Y5A0202	Chiranjeevi Rakesh	Yes	Yes	agree	Strongly agree	agree	5
27	209Y5A0203	Kotagula Mohammad	Yes	Yes	agree	Strongly agree	agree	5

  
Coordinator

  
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HEAD  
Department of Electrical &  
Electronics Engineering  
K.S.R.M. College of Engineering  
Kadapa -516003.

# LabVIEW Lecture 1

Ertugrul Karademir

# What is LabVIEW?

- Graphical programming environment
- Measurement, testing, control applications
- Hardware control
- Flowchart representation
- Object Oriented Approach

# What is LabVIEW?



Ertugrul  
Bilkent  
F44G44444  
LabVIEW Professional Development System



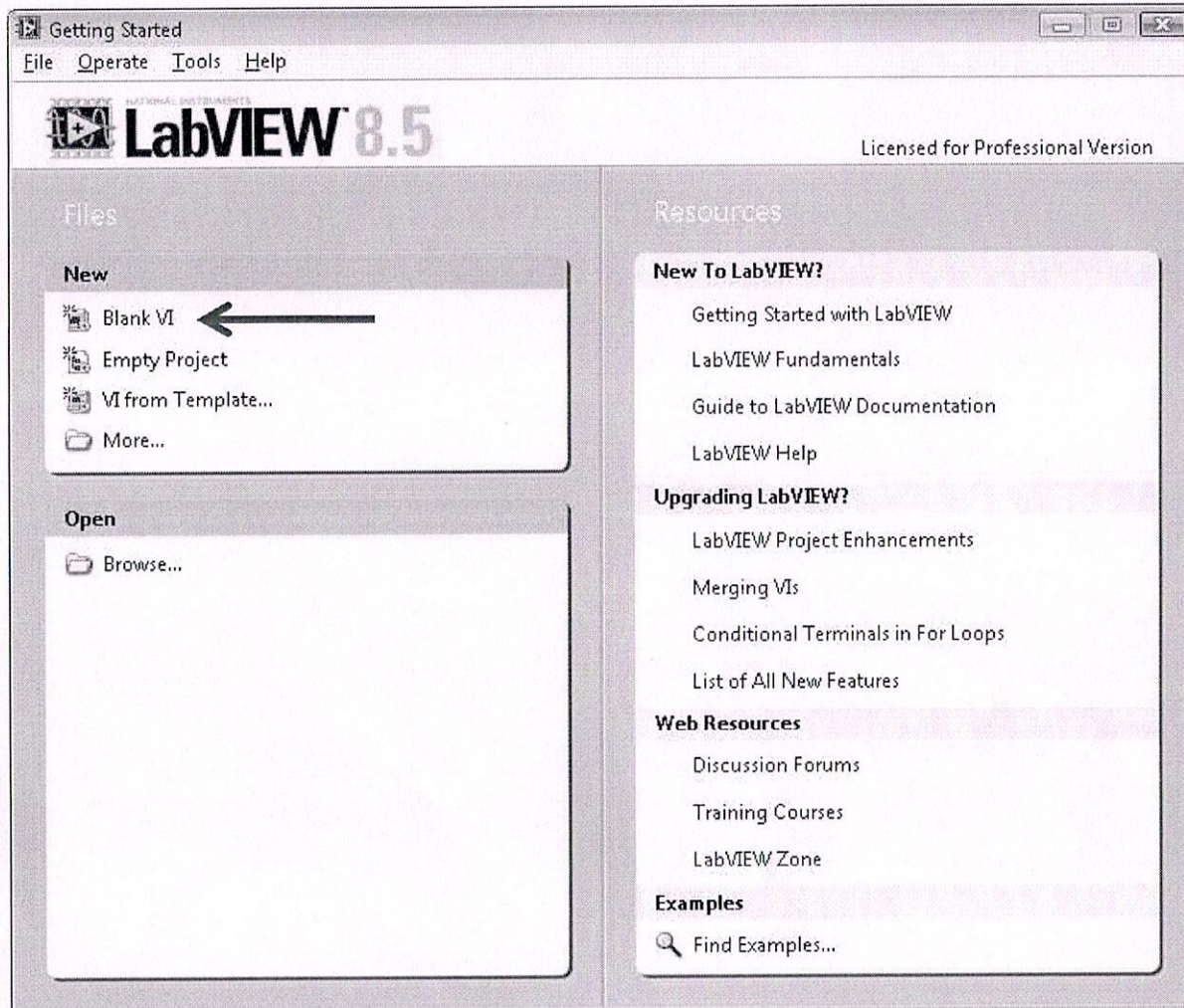
# LabVIEW™ 8.5

[ni.com/labview](http://ni.com/labview)

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Version 8.5 - Initializing plug-ins

# What is LabVIEW?

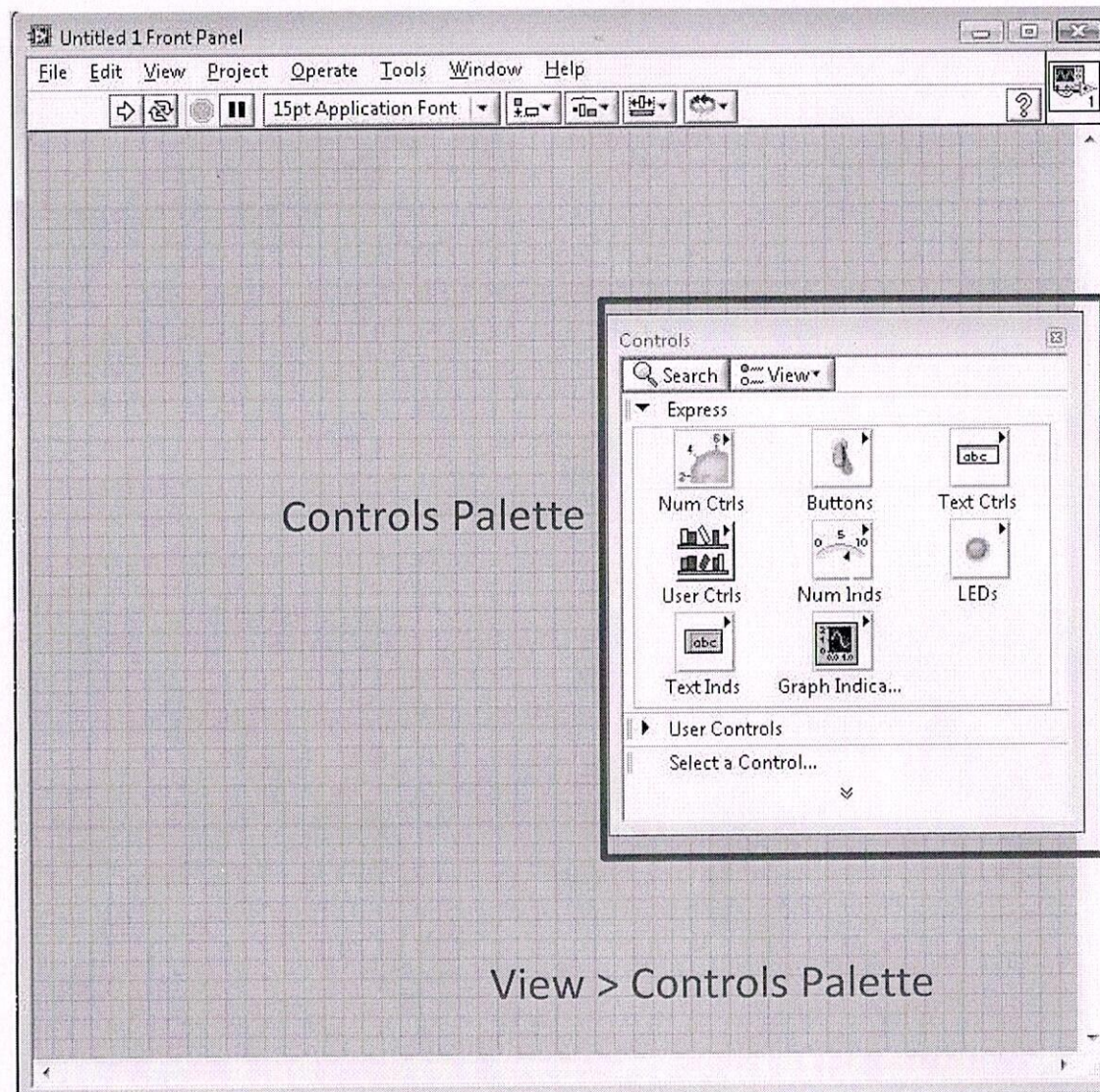


# Virtual Instrument

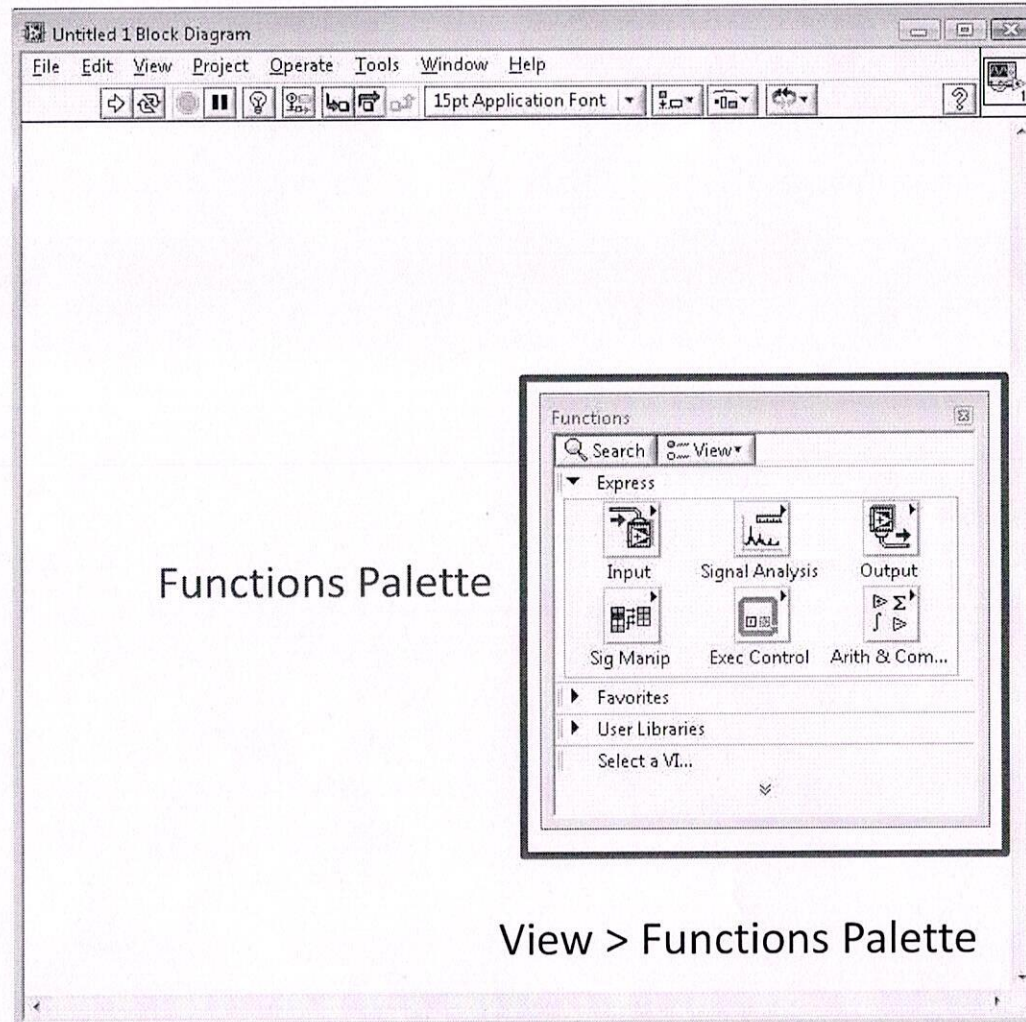
- LabVIEW programming paradigm
  1. Program control with a front panel
  2. Algorithm with block diagram
- Easy to debug
- Hard to program



# Front Panel



# Block Diagram

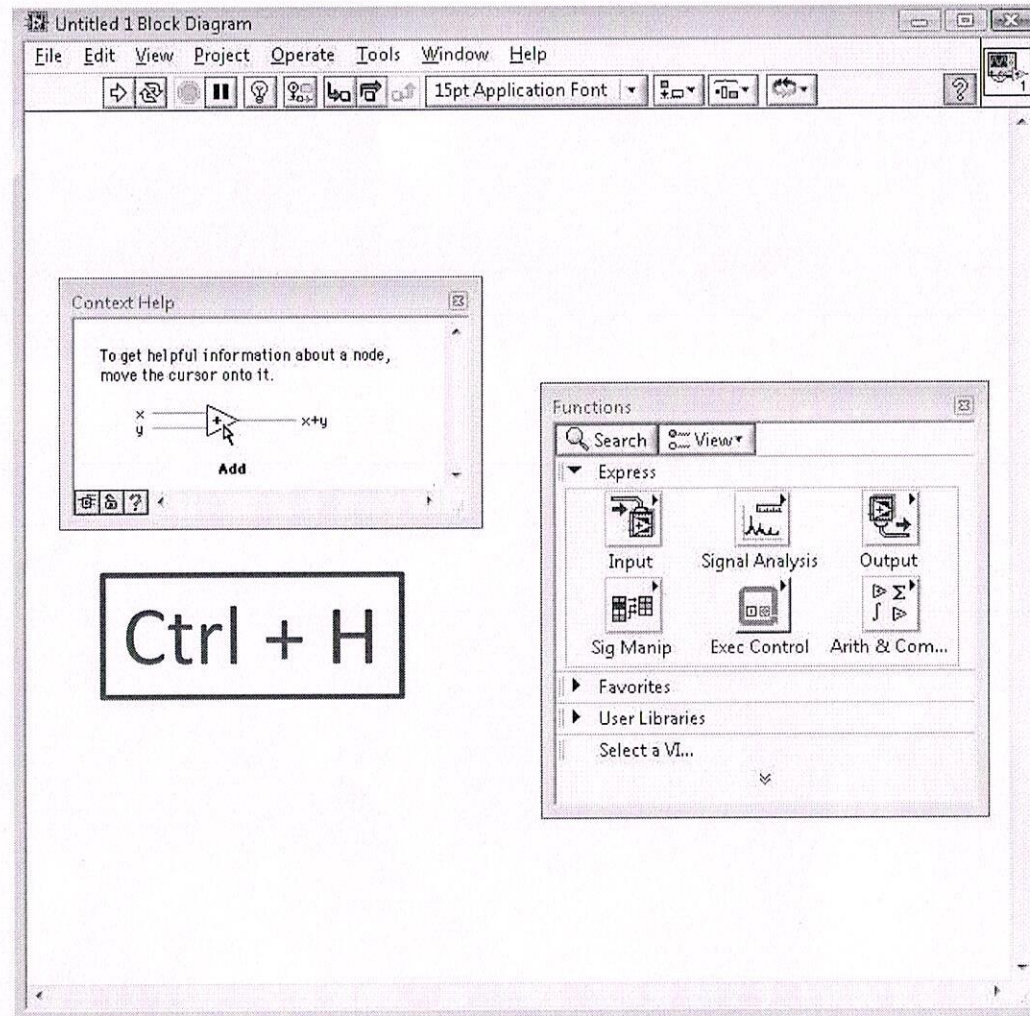


# Front Panel – Block Diagram

- To toggle between two panels

Ctrl + E

# Context Help



# Detailed help

The screenshot shows the LabVIEW Help application window. The title bar reads 'LabVIEW Help'. Below the title bar are navigation icons for 'Hide', 'Locate', 'Back', 'Forward', and 'Options'. The main content area is divided into two panes. The left pane contains a tree view with tabs for 'Contents', 'Index', 'Search', and 'Favorites'. The 'Contents' tab is active, and the tree view shows a list of functions, with 'To Byte Integer' selected and highlighted. The right pane displays the help text for the 'To Byte Integer' function. The text includes a description of the function, a connector pane diagram, and detailed information about the data types used in the function.

LabVIEW Help

Hide Locate Back Forward Options

Contents Index Search Favorites

- ? Square Root
- ? Subtract
- + Complex Function
- Conversion VIs a
  - ? Boolean Arra
  - ? Boolean To (
  - ? Byte Array To
  - ? Cast Unit Ba
  - ? Color to RGB
  - ? Convert Unit
  - ? Number To E
  - ? RGB to Color
  - ? String To Byt
  - ? **To Byte Integer**
  - ? To Double P
  - ? To Double P
  - ? To Extended
  - ? To Extended
  - ? To Long Inte
  - ? To Quad Inte
  - ? To Single Pre
  - ? To Single Pre
  - ? To Time Star
  - ? To Unsigned
  - ? To Unsigned
  - ? To Unsigned
  - ? To Unsigned
  - ? To Word Inte

## To Byte Integer

Converts a number to an 8-bit integer in the range -128 to 127.

The connector pane displays the default data types for this polymorphic function.

**Details**

**number** — **I8** — 8bit integer

Place on the block diagram  Find on the **Functions** palette

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**DBL** **number** can be a scalar number, array or cluster of numbers, array of clusters of numbers, and so on.

**I8** **8bit integer** is of the same data type structure as **number**.

### To Byte Integer Details

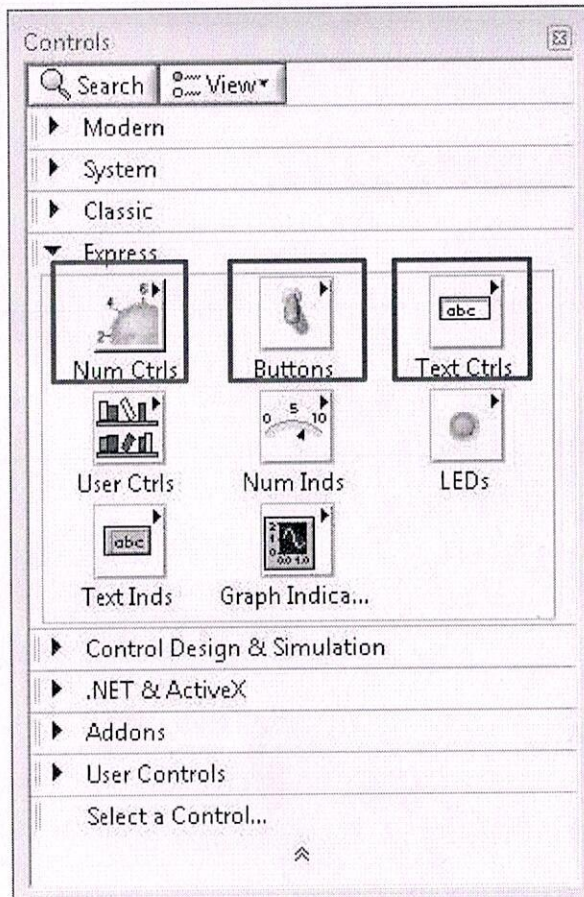
This function rounds all floating-point numeric values to the nearest integer. If the fractional part of the floating-point value is .5, the function rounds the value to the nearest even integer. For example, the function rounds 13.5 to 14 and rounds 14.5 to 14.

[Submit feedback on this topic](#)

# Three fashions of variables

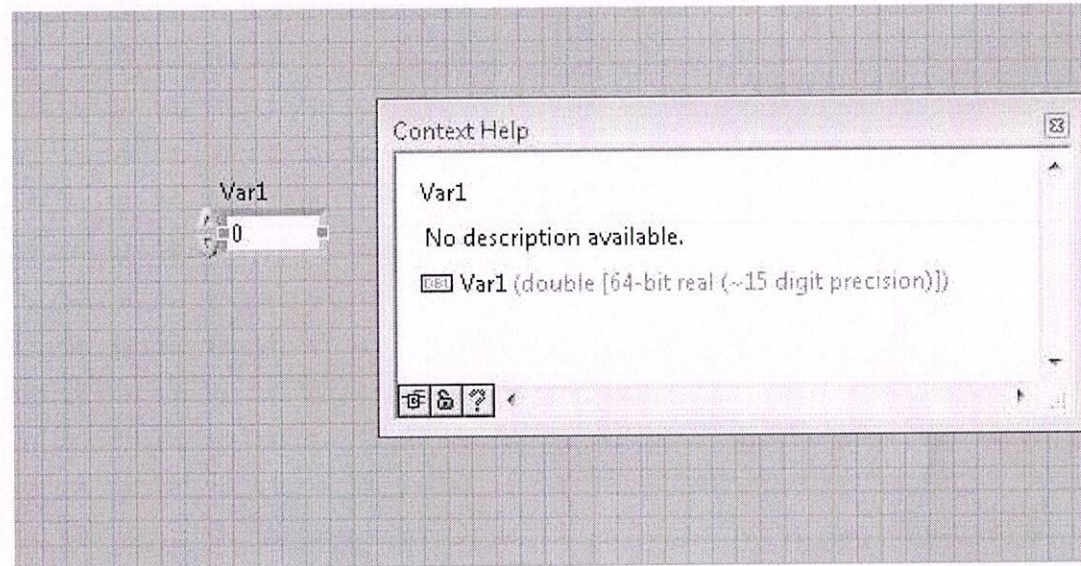
- Mixture of GUI and console
  1. Controls
    - User input (In Java: TextBox GUI Component)
  2. Indicators
    - Program output (In Java: Label GUI Component)
  3. Constants
    - Predefined constants (In Java: Class variables with **const** definer)

# Controls



- Selected from Controls Palette
- Usually Express Palette is enough

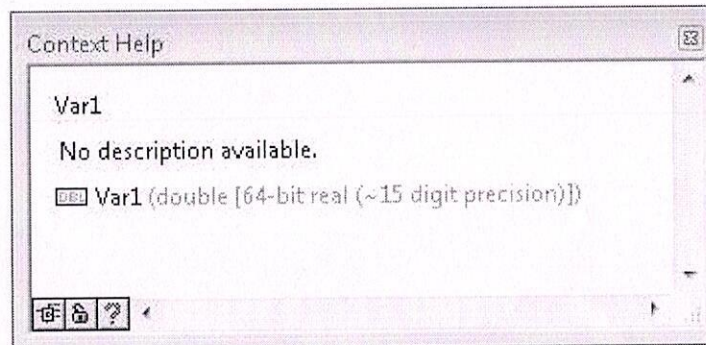
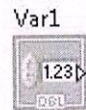
# Controls



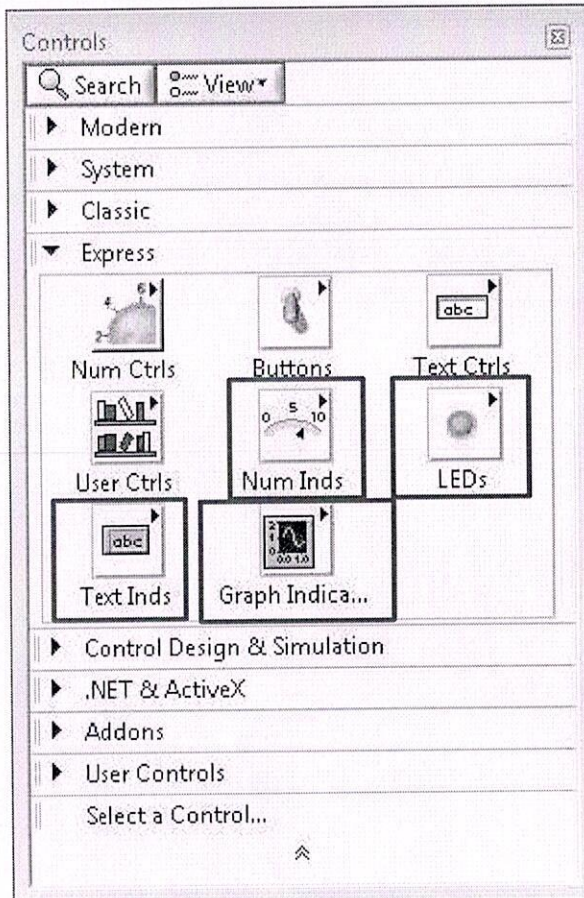


# Controls

- Each control has a proxy in the Block diagram
- Note that proxy has only OUTPUT node



# Indicators



- Also Selected from Controls Palette
- Usually Express Palette is enough

# Indicators

