

Certified LabVIEW Associate Developer Exam Topics

CLAD Exam Goal:

The CLAD exam validates foundational knowledge and skill level to develop and maintain LabVIEW applications.

Exam Topics (Outline):

- LabVIEW programming principles
- LabVIEW environment
- Data types, software constructs, and Graphical User Interface (GUI) elements
- Variables and functions
- Simple design patterns
- SubVI design
- VI design and documentation
- Error handling
- Debugging tools and techniques

Note: The CLD exam includes LabVIEW concepts and features up to the version prior to the most current release of LabVIEW (version 7.0)

Exam Topics (Details):

Identify, describe, and demonstrate the following:

Topic	Details
LabVIEW programming principles	<ul style="list-style-type: none">• Utilize data flow for development of VIs• Polymorphism
LabVIEW environment	<ul style="list-style-type: none">• Front Panel, Block Diagram• Menus and Palettes• Connector pane and icon• Configuration options

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Topic	Topic Details
Data types, software constructs, and GUI elements	<ul style="list-style-type: none"> • Data types: Ranges, formats, representation, scaling, and coercion • Type definitions and strict type definitions • GUI elements: <ul style="list-style-type: none"> ○ Palettes for charts and graphs ○ Control data types ○ Control properties ○ Mechanical action of Booleans • Program control structures and data storage <ul style="list-style-type: none"> ○ For Loops and While Loops ○ Case and Sequence structures ○ Formula Node ○ Shift registers ○ Indexing on loop boundaries ○ Tunnels ○ Sequence locals • Data structures <ul style="list-style-type: none"> ○ Scalars, arrays, clusters, and waveforms • Property Nodes
Variables and functions	<ul style="list-style-type: none"> • Global and local variables • Functions, VIs and Express VIs for the following: <ul style="list-style-type: none"> ○ Numeric, Boolean, and String ○ Arrays and clusters ○ Timing ○ File I/O ○ Waveform
Simple design patterns	<ul style="list-style-type: none"> • Design patterns: <ul style="list-style-type: none"> ○ Parallel loop ○ Multiple case ○ Standard state machine
SubVI design	<ul style="list-style-type: none"> • Different methods to create subVIs • Suitable connector pane and icon • Connection types • Options related to subVIs
VI design and documentation	<ul style="list-style-type: none"> • <i>LabVIEW Style Guide</i> for: <ul style="list-style-type: none"> ○ User interface design and block diagram layout ○ Modular and hierarchical design ○ SubVI icons and connector pane layout (standard) ○ VI properties ○ Documenting VIs

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Topic	Topic Details
Error handling	<ul style="list-style-type: none">• Proper error handling in applications<ul style="list-style-type: none">○ Case structures○ Error VIs○ SubVI connector
Debugging tools and techniques	<ul style="list-style-type: none">• Function of debugging tools• Debugging practices and techniques for different situations