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:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Details</th>
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<tbody>
<tr>
<td>LabVIEW programming principles</td>
<td>• Utilize data flow for development of VIs</td>
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<td>• Polymorphism</td>
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<td>LabVIEW environment</td>
<td>• Front Panel, Block Diagram</td>
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<td></td>
<td>• Menus and Palettes</td>
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<td>• Connector pane and icon</td>
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<td>• Configuration options</td>
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| Data types, software constructs, and GUI elements | • Data types: Ranges, formats, representation, scaling, and coercion  
  • Type definitions and strict type definitions  
  • GUI elements:  
    o Palettes for charts and graphs  
    o Control data types  
    o Control properties  
    o Mechanical action of Booleans  
  • Program control structures and data storage  
    o For Loops and While Loops  
    o Case and Sequence structures  
    o Formula Node  
    o Shift registers  
    o Indexing on loop boundaries  
    o Tunnels  
    o Sequence locals  
  • Data structures  
    o Scalars, arrays, clusters, and waveforms  
  • Property Nodes |
| Variables and functions | • Global and local variables  
  • Functions, VIs and Express VIs for the following:  
    o Numeric, Boolean, and String  
    o Arrays and clusters  
    o Timing  
    o File I/O  
    o Waveform |
| Simple design patterns | • Design patterns:  
    o Parallel loop  
    o Multiple case  
    o Standard state machine |
| SubVI design | • Different methods to create subVIs  
  • Suitable connector pane and icon  
  • Connection types  
  • Options related to subVIs |
| VI design and documentation | • *LabVIEW Style Guide* for:  
    o User interface design and block diagram layout  
    o Modular and hierarchical design  
    o SubVI icons and connector pane layout (standard)  
    o VI properties  
    o Documenting VIs |
<table>
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<tr>
<td>Error handling</td>
<td>• Proper error handling in applications</td>
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<tr>
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<td>o Case structures</td>
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<td>o Error VIs</td>
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<td>o SubVI connector</td>
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<td>Debugging tools and techniques</td>
<td>• Function of debugging tools</td>
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<td>• Debugging practices and techniques for different situations</td>
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