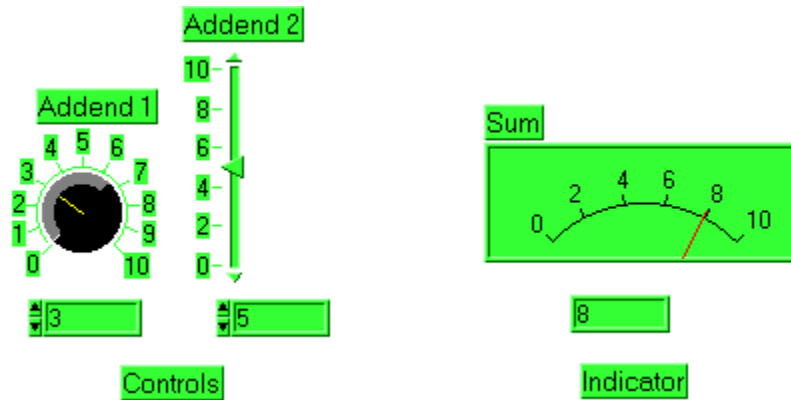


LabVIEW

LabVIEW (Laboratory Virtual Instrument Engineering Workshop) is a graphical programming language for computers that is designed to help programmers do their job more efficiently. LabVIEW utilizes simple pictures rather than complex words to tell the computer what to do; consequently, it is much easier to learn and use than traditional computer languages. The people who use LabVIEW are generally scientists and engineers; however, other people can use it too. Anyone who needs to control a computer and is not educated in computer languages should use LabVIEW.

A LabVIEW program has two parts, a front panel and a diagram. The front panel is the screen that you see when are using the program. The front panel generally shows knobs, buttons, charts, and other controls and indicators. Controls are items that you can control, for example, knobs that you can turn by moving the mouse while holding down the left mouse button, or buttons that you can push by pushing the left mouse button. Controls are used to give the computer information to process. Indicators display information that the program generates. Graphs, gauges, and lights are examples of indicators. Controls and indicators look realistic; however, they are pictures on the screen. The diagram is a separate screen in which you draw the pictures that tell the computer what to do. The diagram looks similar to a piece of blank sketch paper. Then, by using a set of drawing tools, you create a flow chart of instructions for the computer to follow.

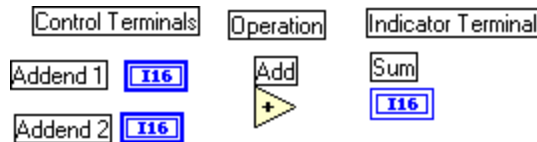
The first step in creating a LabVIEW program is choosing the controls and indicators. You choose controls and indicators by right-clicking the mouse and selecting them from the menu that appears.



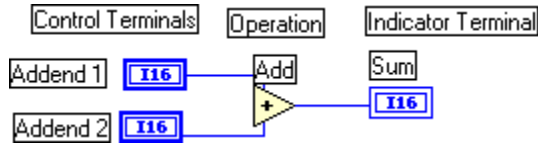
Immediately following, terminals, which are connections to the controls and indicators, appear on the diagram screen.



Then you choose operations (add, subtract, multiply, etc.) that you want the computer to execute using the information in the controls. You do this by clicking the right mouse button and selecting from the menu that appears.



Next you draw lines on the diagram connecting the control terminals to the operations. Finally, you draw lines containing the computed information from the operations' outputs to the indicator terminals. This step is similar to wiring an antenna to a video cassette recorder and then to a television.



LabVIEW is an excellent programming language for several reasons. It uses understandable pictures rather than complicated words and symbols. LabVIEW is much easier to learn than other computer languages, and anyone who has little knowledge of computers can use LabVIEW after only a few days of training.