Selection in LabVIEW
The mechanism for selecting amongst various blocks of conditionally executed code is the case structure. It is similar to select-case or if-then-else blocks in text programming languages.
1. The case structure is found in the Functions>Structures subpalette.
2. The case structure is placed in the same manner as the For Loop and While Loop.
   a. You can either enclose nodes in the case structure or drag nodes into it.
3. The case structure is configured similar to a deck of cards
   a. Only the top “card”, the selected case, is visible
   b. Only the selected case executes
4. The case structure has two controlling components: the selection terminal and the case label
   a. The selection terminal is the input terminal located on the case structure boundary (the “?” box)
      i. The case is selected by way of the selection terminal
      ii. The selection terminal can a numeric, Boolean, or string data type
      iii. The type of the selection terminal will automatically adjust to the type of the control that is wired to it
   b. The case structure has a label on its top border that displays the name or selection option of each case
      i. The label can be edited using the labeling tool
      ii. The arrows on either side of the label allow you to scroll through all the cases
      iii. Right clicking on the label brings up a menu for the case structure
          1. From this menu, cases can be added, deleted, copied, rearranged, etc.
          2. The “Make This The Default Case” option in the case pop-up menu sets the presently selected case as the default. This is a necessary step unless each possible input to the selection terminal has an explicitly specified case.
5. Notes on case structure use
   a. The data types input into the case label box must match the input data type. If it doesn’t the label will display in red and the VI will not run.
   b. Any outputs defined for a case must be defined for all cases. Error values may be implemented by wiring an appropriate constant to the output tunnel.
   c. Data lists and ranges may be used in the case label. For example, typing 5..10 in the label for a numeric input would cause a case to be used for any of the inputs in the range of 5 to 10. Similarly by typing 2,3 in the case label, the case will be used for an input of 2 or 3.
6. Ring controls are very useful when dealing with case structures.
   a. Ring controls are available in the Controls>List & Ring subpalette
   b. They allow you to associate text with a numeric output
   c. Right clicking on the ring control allows you to add, delete, or rearrange items in the ring
   d. It may be helpful to select the Show>Digital Display option from the ring control menu. This will display the numeric output of the ring control for each selectable item