Concept: Handling Errors in a SubVI

Goal

Modify a subVI to handle errors properly.

Scenario

You have created a VI that determines a warning string based on the inputs given. Modify the VI to handle errors properly.

Implementation

The files that you need to complete this exercise are here:
`<NI eLearning>\LV Core 1\Using SubVIs\Exercise.`

1. Open `Determine Warnings.vi` from the `<Exercise>` directory.

2. Switch to the Block Diagram.

3. Modify the VI to execute if the error in cluster has no error, and to not execute if the error in cluster has an error.

   ❑ Surround the block diagram code with a Case structure, as shown in Figure 1. Leave the Warning Text and Warning? indicators outside of the Case structure.
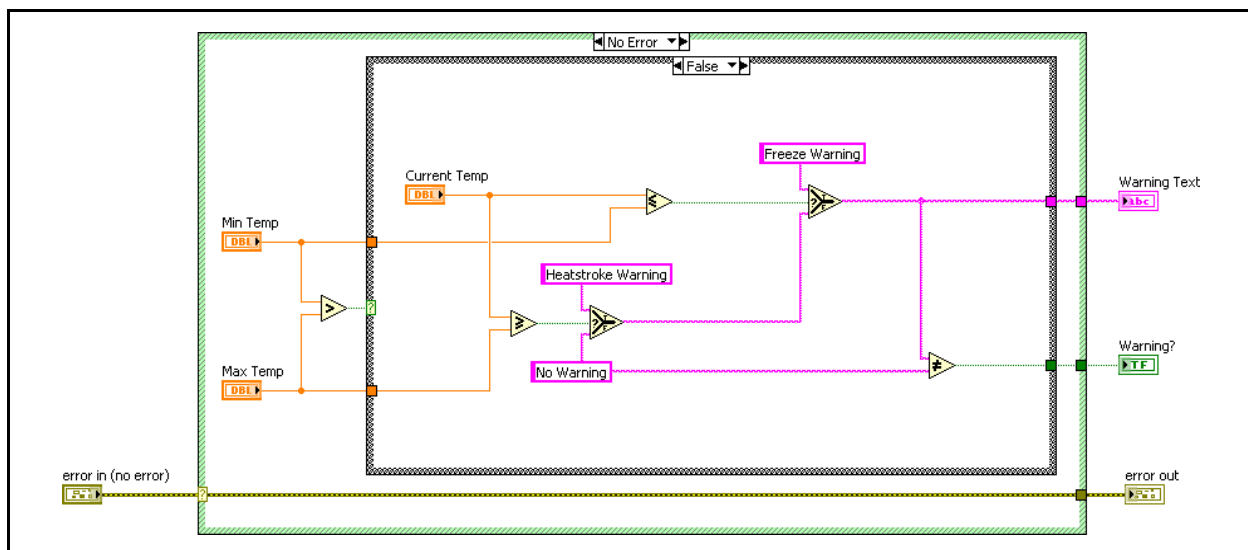

Figure 1. No Error Case of Determine Warnings VI

   ❑ Wire the error in control to the case selector terminal.

❑ Confirm that the existing block diagram code is in the No Error case. If it is not, switch to the case containing the code, right-click the Case structure and select **Make this Case No Error** from the shortcut menu.

❑ Wire the error cluster through the Case structure to the error out indicator as shown in Figure 1.

❑ Switch to the Error case.

❑ Wire the error cluster through the case to the error out tunnel.

❑ Right-click the Warning? tunnel and select **Create»Constant** from the shortcut menu.

❑ Use the Operating tool to change the constant to **True**.

❑ Right-click the Warning Text tunnel and select **Create»Constant** from the shortcut menu.

❑ Enter `Error` in the constant.

❑ Confirm that you have completed the Error case, as shown in Figure 2.
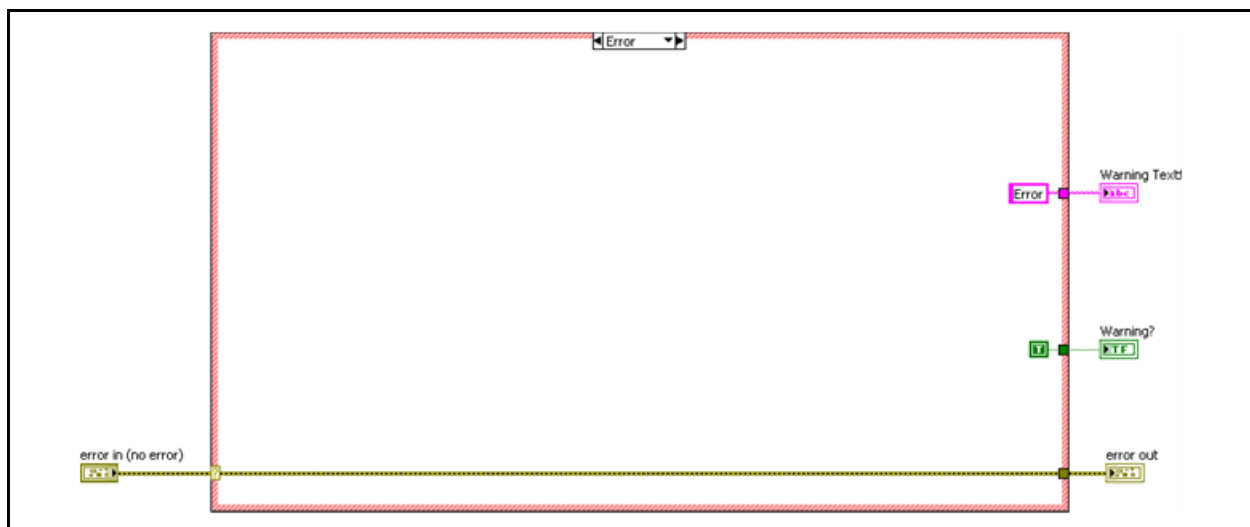

Figure 2. Error Case of Determine Warnings VI

If an error enters the VI, the VI outputs Error in Warning Text, and True in Warning? and passes the error out of the VI. If an error does not enter the VI, the VI operates as originally designed.

4. Save and close the VI.

Test

Use a blank VI to test the subVI.

1. Open a blank VI.

2. Open the block diagram.

3. Place the Determine Warnings subVI on the block diagram of the blank VI by selecting the **Select a VI** option on the Functions palette and navigating to the `<Exercise>` directory.

4. Create controls and indicators for each item in the subVI.

   ❑ Right-click the Current Temp input and select **Create»Control** from the shortcut menu.

   ❑ Right-click the Max Temp input and select **Create»Control** from the shortcut menu.

   ❑ Right-click the Min Temp input and select **Create»Control** from the shortcut menu.

   ❑ Right-click the Warning Text output and select **Create»Indicator** from the shortcut menu.

   ❑ Right-click the Warning? output and select **Create»Indicator** from the shortcut menu.

   ❑ Right-click the error in input and select **Create»Control** from the shortcut menu.

   ❑ Right-click the error out output and select **Create»Indicator** from the shortcut menu.

5. Switch to the front panel.

6. Enter test values in Current Temp, Max Temp, and Min Temp. Ensure that error in has no errors.

7. Run the VI.

8. Set error in to have an error by changing the value of the status Boolean. Rerun the VI.

9. After you have finished testing, close the test VI. You do not need to save the test VI.

End of Exercise

Notes