Concept: Understanding Modularity

Goal

Explore modularity and how to use and create subVIs effectively.

Description

In this exercise, follow the instructions to investigate what makes an effective subVI and how to convert a piece of code into a subVI.

SubVIs are used to centralize code into discrete modules. When code is used multiple times within a VI, it is good practice to use a subVI so that the code can be modified easily. Using subVIs also reduces the amount of clutter on the block diagram.

The front panel and block diagram for the VI you will be using are shown in Figures 1 and 2, respectively.
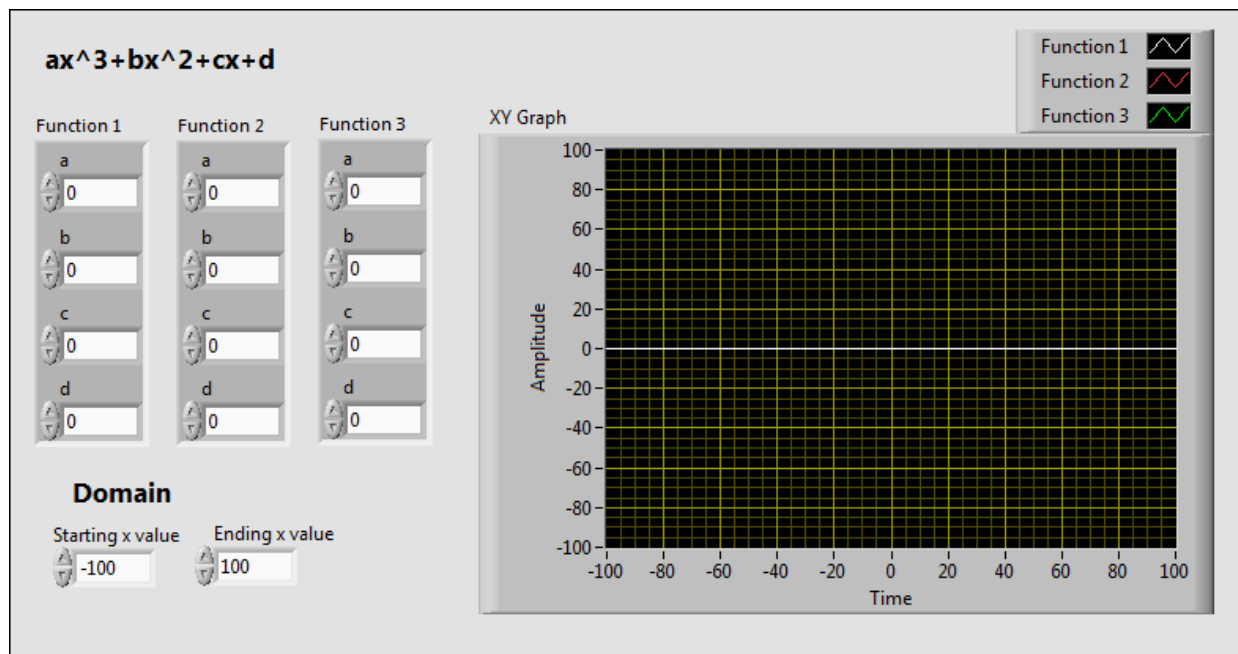

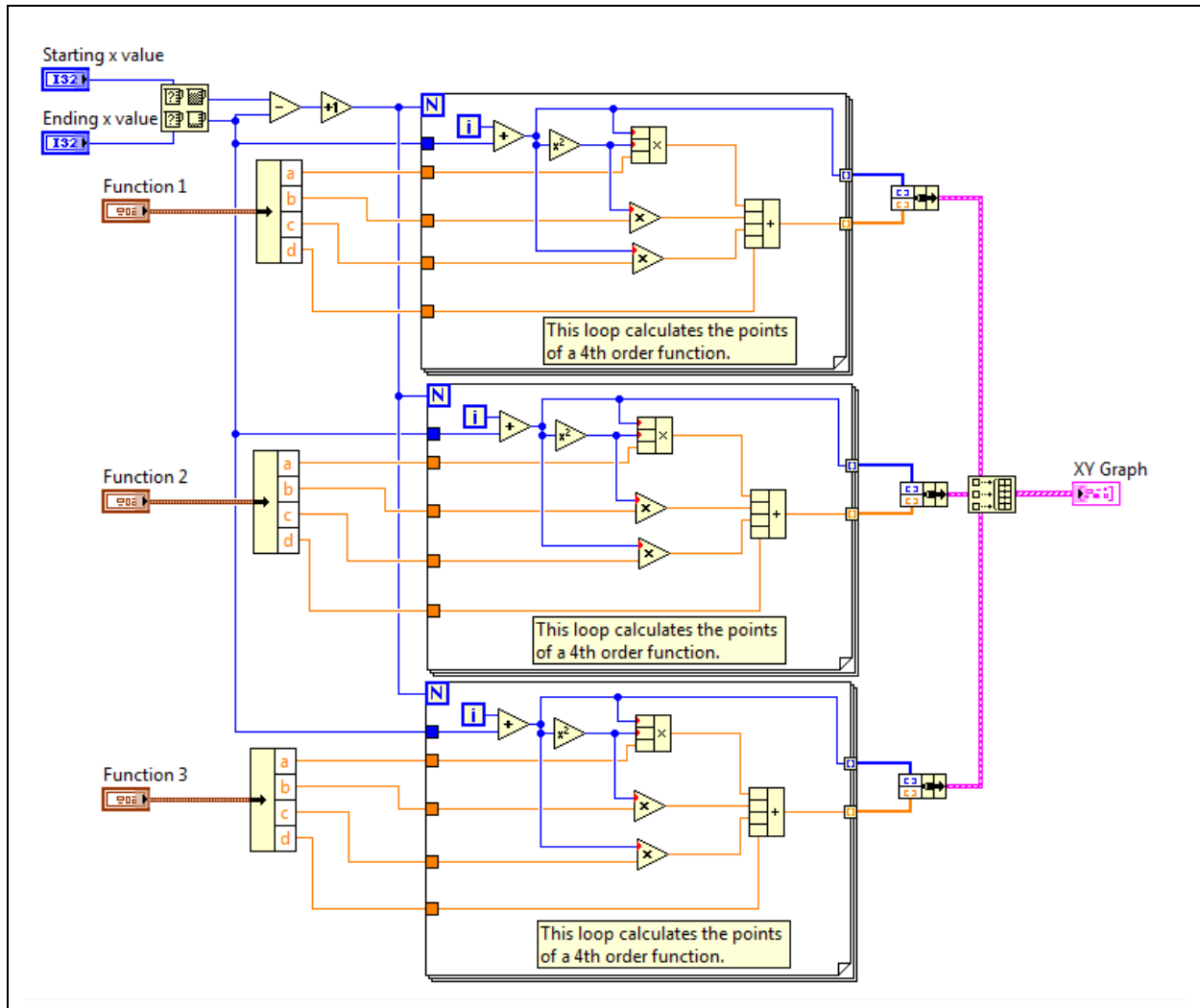**Figure 1.** Creating a SubVI Front Panel

Figure 2. Creating a SubVI Block Diagram

Implementation

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

1. Open `Creating a SubVI.vi` from the `<Exercise>` directory.

2. Press <Ctrl-E> to switch to the block diagram.

3. Create a subVI for the code that calculates the arrays of x and y values for the function.

   ❑ Select the first Unbundle By Name function, For Loop, and Bundle function.

   ❑ Select **Edit»Create SubVI**.

❑ Save the subVI as `Graph Function.vi` in the `<Exercise>` directory.

4. Replace the other two For Loops with the subVI.

❑ Delete the other Unbundle By Name functions, For Loops, and Bundle functions.

❑ Select the newly-created subVI on the block diagram.

❑ Hold <Ctrl> and drag the subVI, to create two new copies of the subVI on the block diagram.

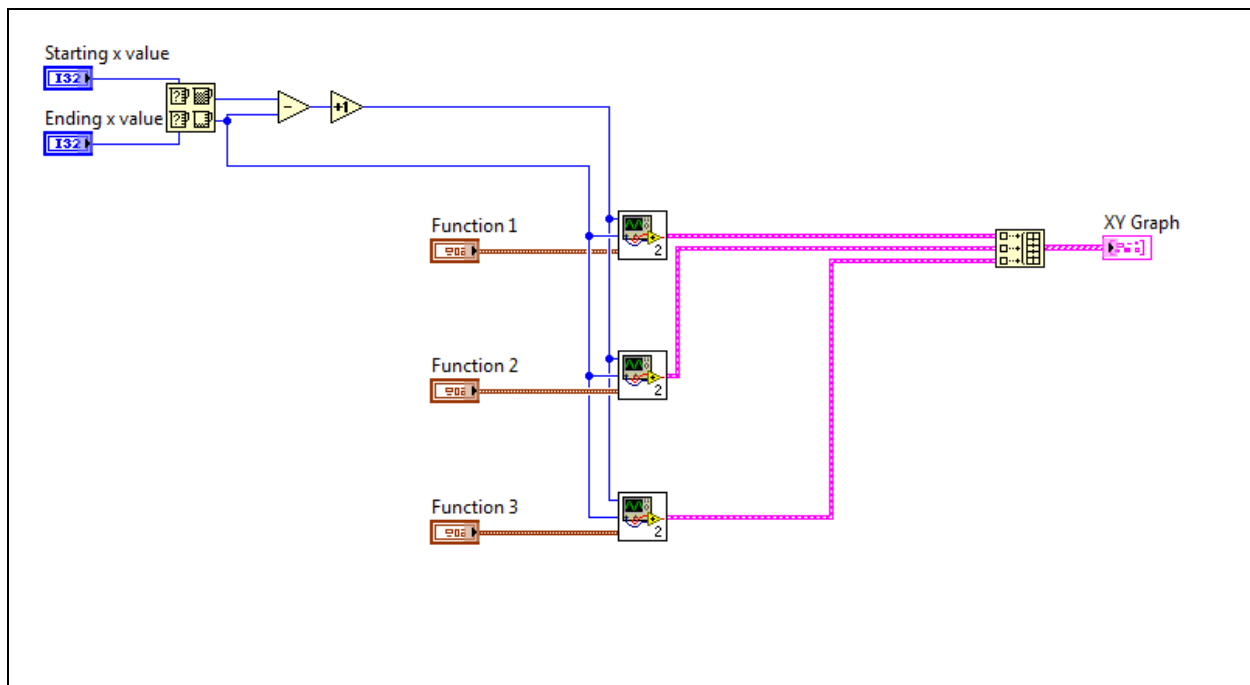❑ Rearrange the controls and subVIs on the block diagram as shown in Figure 3.

Figure 3. Completed Creating a SubVI Block Diagram

5. Save the VI.

End of Exercise

Notes