Homework 2

Instructions: Please complete the following in one VI. Please use the Homework 2 template. Refer to the Front Panel screen shot on the second page of this document for further guidance. Do not worry about small details such as labels, etc. Your VI does not have to be exactly the same as the screen shot.

If you have questions, please post comments on the homework on your university's LabVIEW Workshop website.

Part I: Arrays

In Part One, the following array functions must all be used:

- Index Array
- Initialize Array
- Build Array
- Search 1D Array

1. Create a two-dimensional array of Booleans on the Front Panel. Create two numeric controls which allow the user to select an element by entering a row and column. Display the chosen element using an LED.
2. Using numeric controls A, B, and C, programmatically create a one-dimensional array with 5 elements. The elements should be A, A, A, B, C.
3. Create a string control and a numeric indicator on the Front Panel. Allow the user to enter a color. The numeric indicator should display the order of that color in the rainbow. The order of the rainbow is Red, Orange, Yellow, Green, Blue, Indigo, Violet. For example, if the user types Yellow, the numeric indicator should display 2.

Part II: Enums

4. Create an enum with three items. Display the number which corresponds to the user's selection in a numeric indicator.

Part III: Clusters

5. Create a cluster that displays the indicators from problems 1, 2, and 4 (an LED, an array, and a numeric indicator). Hint: make sure that the order of the indicators in the cluster corresponds with the order of the bundle function.
6. Create a cluster of a string, boolean, and numeric controls. Create indicators that display the user's inputs to the Boolean and numeric controls of the cluster.

CLAD Component: Custom Controls

7. Save the VI to a folder named Lastname_Firstname_HW1. Create a strict type-def custom control. Save the control to the folder that was just created. Insert another instance of the control to the Front Panel.


Name:
HW2
Problem 1
Buttons
0
0
Row
2
Collumn
1
LED
Problem 2
A
5
B
3
C
1
Array
0
5
5
5
3
1
Problem 3
Color
Green
Color
3
Problem 4
Favorite Foods
Ice Cream
Selection
2
Problem 5
output cluster
Numeric
2
Boolean
0
5
5
5
3
1
Problem 6
Cluster 2
Favorite Musician
Billy Joel
Do you play an instrument?
YES
# of instruments
1
Do you play an instrument?
Number of instruments
1
Problem 7
Miles Per Hour
Miles Per Hour 2
0
25
50
75
100
125
150