Learning how to program using LabView – Part I

Objective

To learn how to write basic LabView programs and understand LabView program flow.

Material Required

Computer with LabView installed.

Prelab

The following must be completed before the Lab session:

Go to the website http://www.ni.com/white-paper/7466/en Do the Tutorial and exercises under "LabView Environment" and "Passing Data and Debugging".
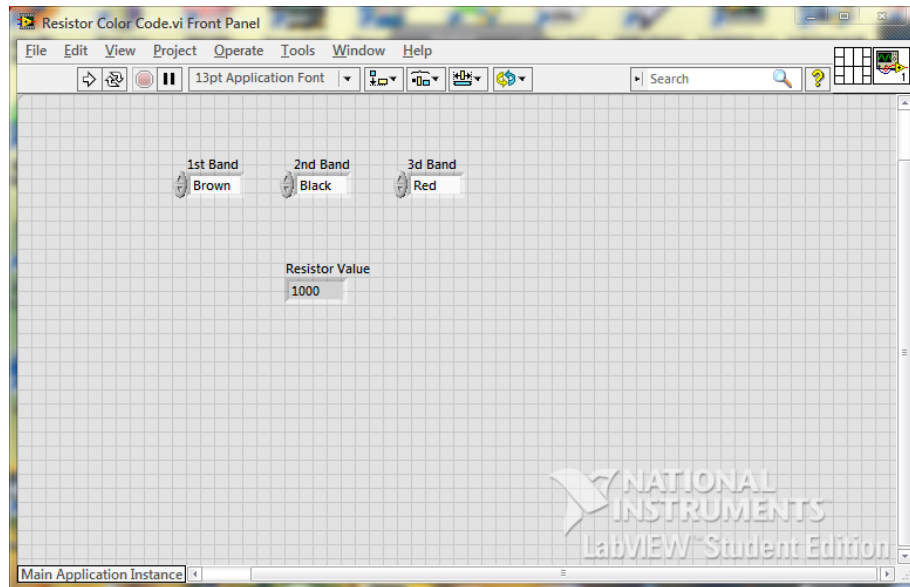
Lab

Part I

Write a LabView program that executes an equivalent of the following C-like code, where x is an input and y is an output. (Formula Nodes are not allowed):

```
if(abs(x)<0.1)
        y = 1;
else
        if(x>=0)
                y = 0;
        else
                y = 2;
```

Run your program for the following inputs: x=0.05,-0.05,1,-1

Write a LabView program that receives three colors representing a resistor color code for its value and returns the numeric resistor value in ohms. Your interface should be similar to the one shown in the figure. The third band should include silver and gold colors.
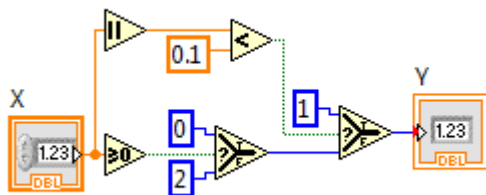
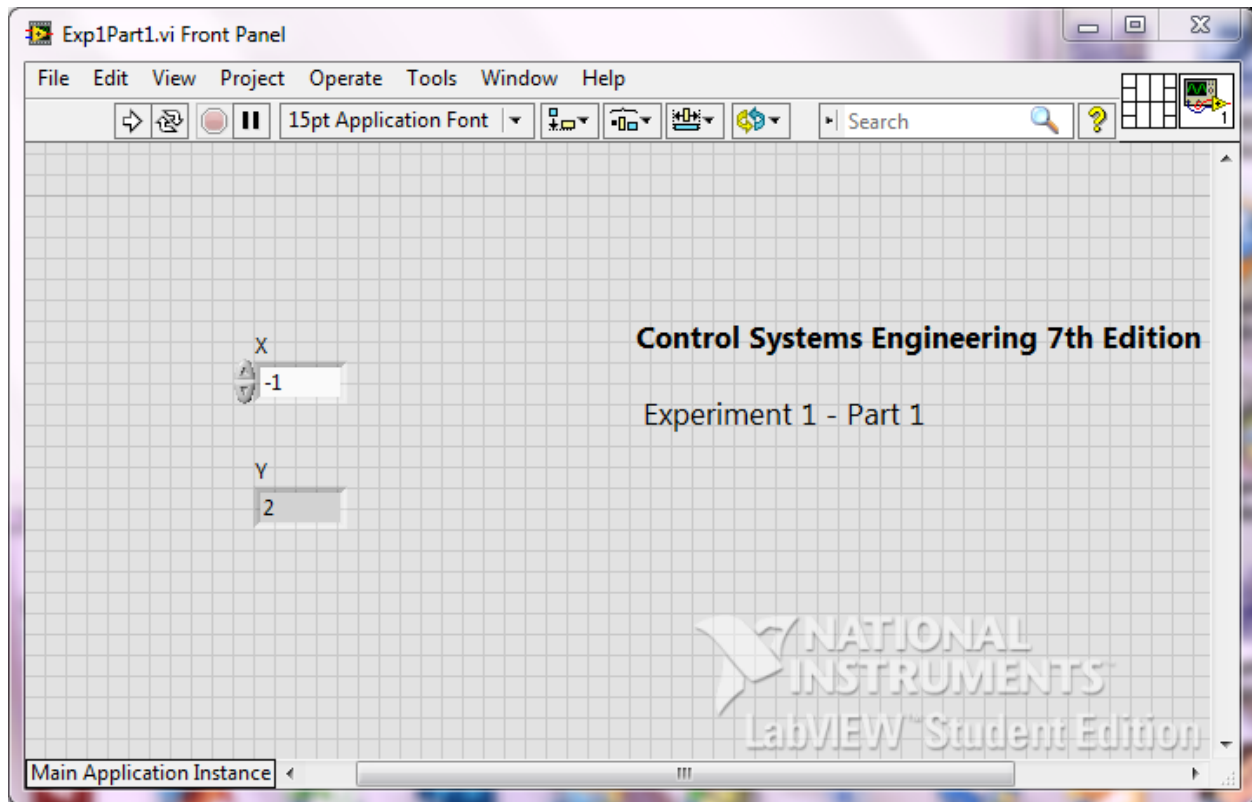Run your program at least for the following inputs:

Red Red Black
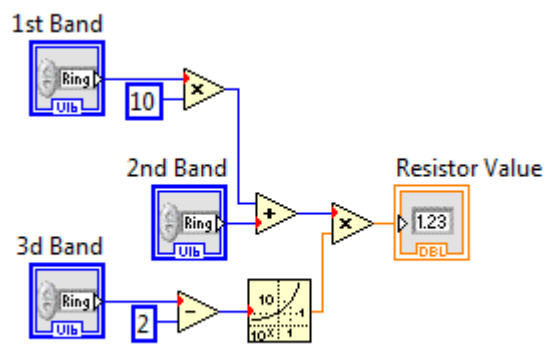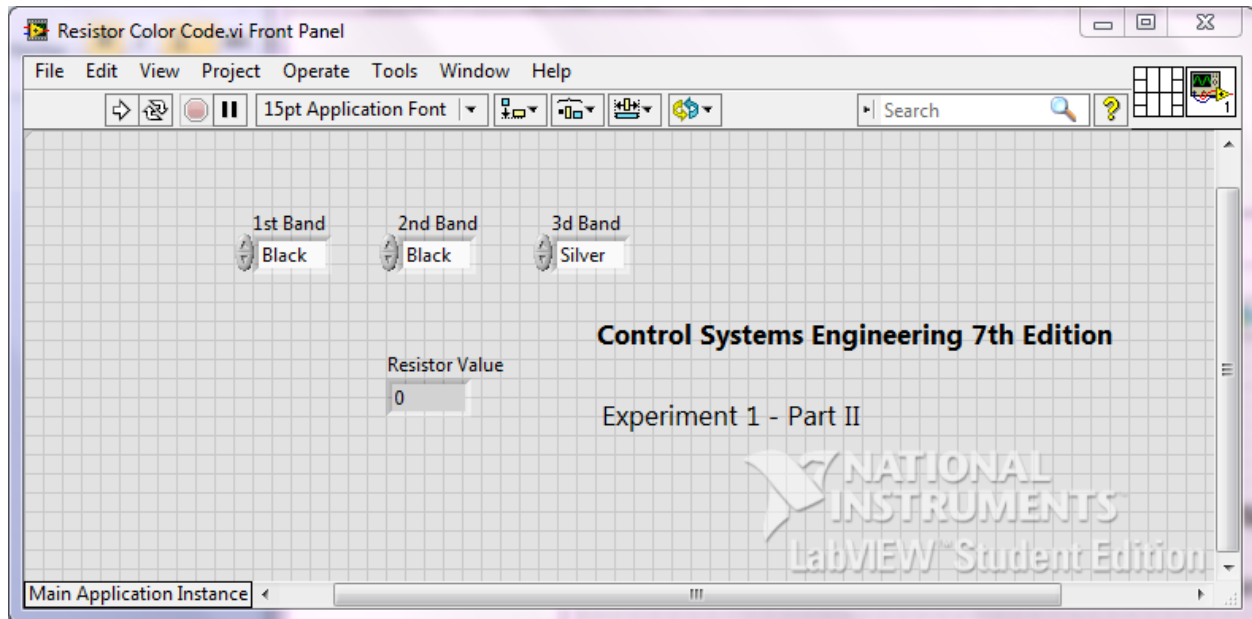Brown Black Orange
Orange White Gold

Solutions

Part I

X	Y
0.05	1
-0.05	1
1	0
-1	2

Part II

1st and 2nd Band Rings must be defined as:

Ring Properties: 2nd Band

	Appearance	Data Type	Data Entry	Display Format	**Edit Items**	Docu ◄ ►

☑ Sequential values

Items	Values		
Black	0		Insert
Brown	1		Delete
Red	2		Move Up
Orange	3		Move Down
Yellow	4		Disable Item
Green	5		
Blue	6		

☐ Allow undefined values at run time

OK   Cancel   Help

3d Band Ring must be defined as

Ring Properties: 3d Band

Data Type | **Data Entry** | **Display Format** | **Edit Items** | **Documentation** | D ◄ ►

☑ Sequential values

Items	Values
Silver	0
Gold	1
Black	2
Brown	3
Red	4
Orange	5
Yellow	6

Insert
Delete
Move Up
Move Down
Disable Item

☐ Allow undefined values at run time

OK   Cancel   Help

Input	Resistor Value
Red, Red, Black	22
Brown, Black, Orange	10000
Orange, White, Gold	3.9