

**Labview Assignment #4**, due before March 2nd at 6:00pm. Simply demonstrate your program working. Grading for this assignment is full credit if you did the assignment and no credit if you did not complete the assignment. Make sure to ask Logan or me questions if you get stuck. First read through this tutorial <http://www.ni.com/tutorial/7592/en/> and watch these two youtube videos about shift registers (or find other tutorials online).

<https://www.youtube.com/watch?v=wRvpb9jtRIE>

<https://www.youtube.com/watch?v=4ivYARn2fy8>

For this assignment we are going to start working with the 2D Picture block in Labview. In lab you will be using Labview to draw the robot course and update the position of the robot in a 2D Picture animation. Below is the Labview program I would like you to reproduce for this assignment. It shows you how to draw lines in the 2D Picture. Each time through the while loop it takes a random number between 0 and 1 and draws a 25 pixel by 30 pixel rectangle. (Of course this could have been done easier by using the Draw Rectangle block but I wanted to show how to combine multiple draw commands.) Then a shift register is used to keep track of all the lines printed in the 2D Picture as long as the Boolean LED is true. If you click on the Boolean LED making it false, the lines drawn in the previous loops should not be printed to the 2D Picture.

If your screen is big enough make the 2D Picture 800X800 pixels.

Location of the blocks that may be new to you for this assignment:

**From the Front Panel:**

Modern->Graph->Controls->2D Picture

Modern->Boolean->Round LED

**From the block diagram:**

Programming->Graphics & Sound->Picture Functions->Move Pen

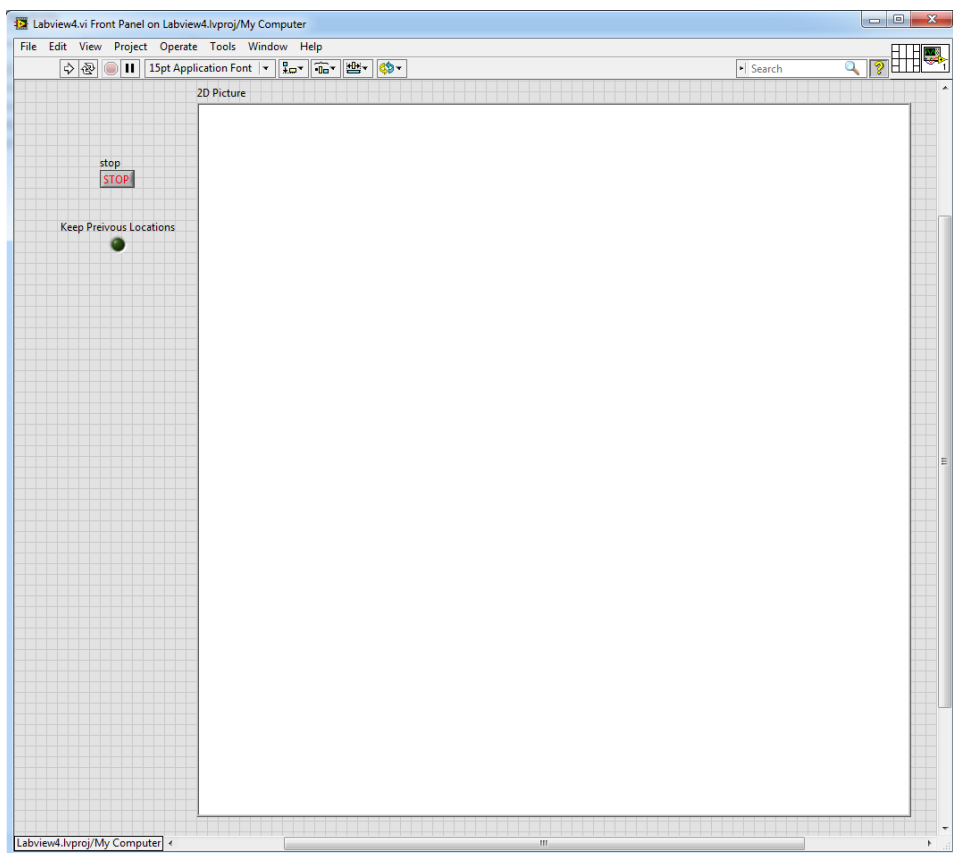
Programming->Graphics & Sound->Picture Functions->Draw Line

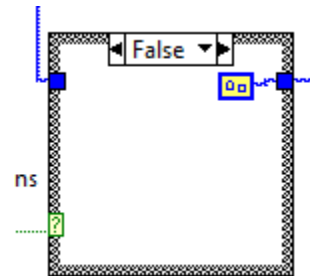
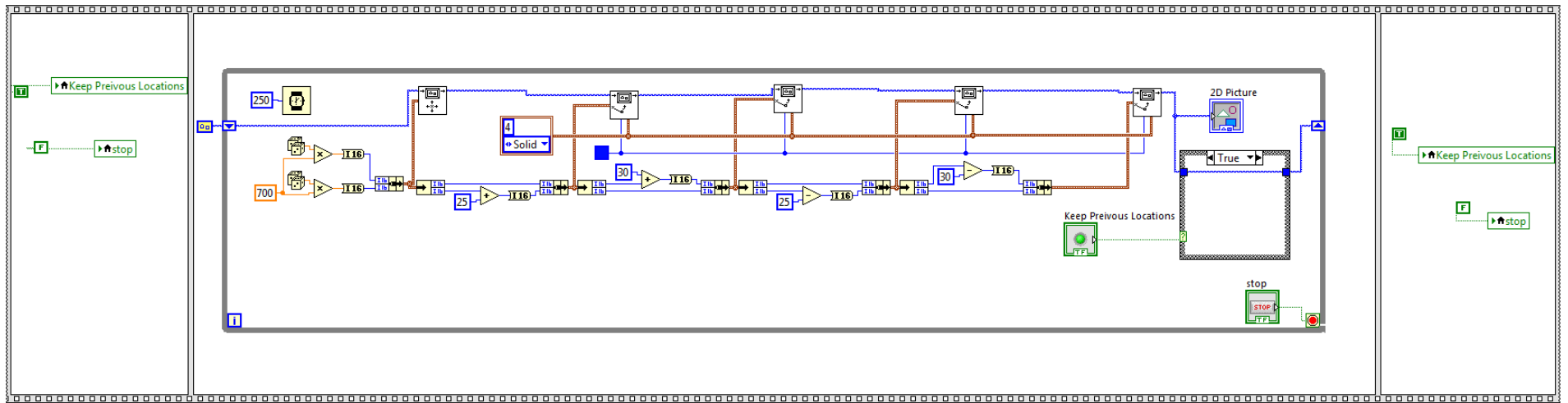
Programming->Graphics & Sound->Picture Functions->Empty Picture

Programming->Numeric->Random Number (0-1)

Programming->Numeric->Conversion->I16

Programming->Cluster, Class & Variant->Unbundle and Bundle





False Case