ECE 6310 INTRODUCTION TO COMPUTER VISION

Lab 4: Region interaction

C14109603

Rahil Modi
rmodi@g.clemson.edu

Introduction:

In this lab we were asked to create a GUI in Microsoft Visual Studio to interact with it and load an image and perform region growing on the image. We were asked to implement two predicates first one for absolute difference of the pixel intensity to the average intensity of pixels already in the region and second one is distance of the pixel to the centroid of pixels already in the region. We also need to implement step region grow when we press 'J'.
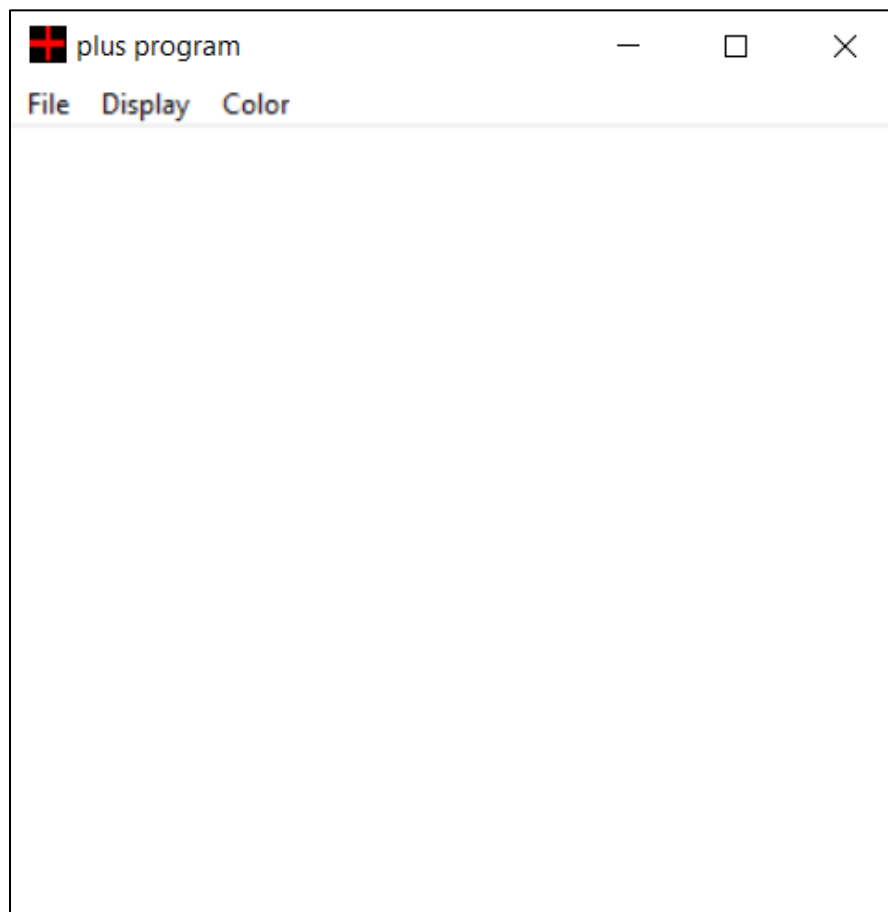
Results:

    Layout:

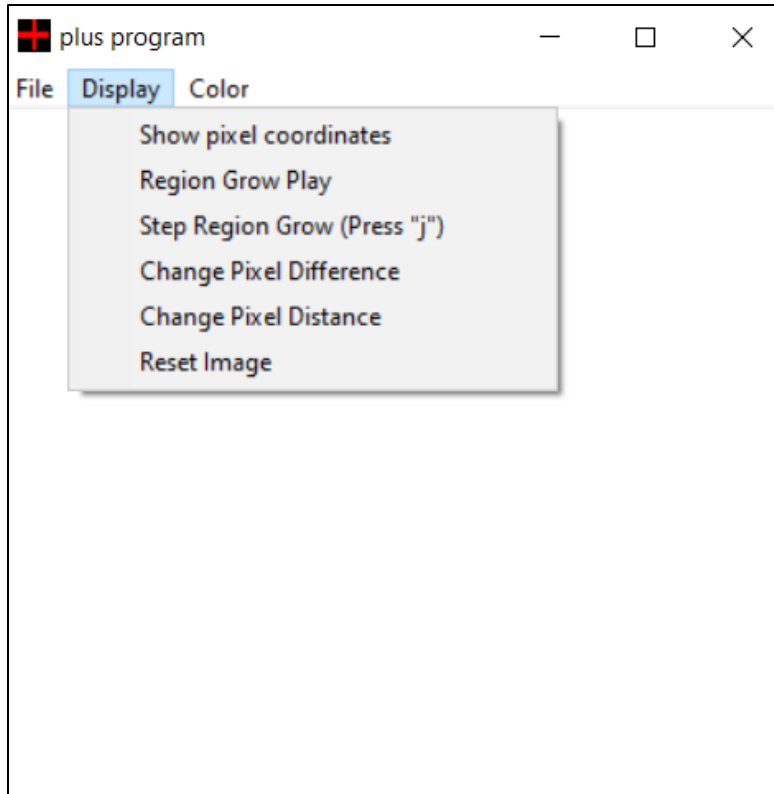*Figure 1 GUI Window Layout*

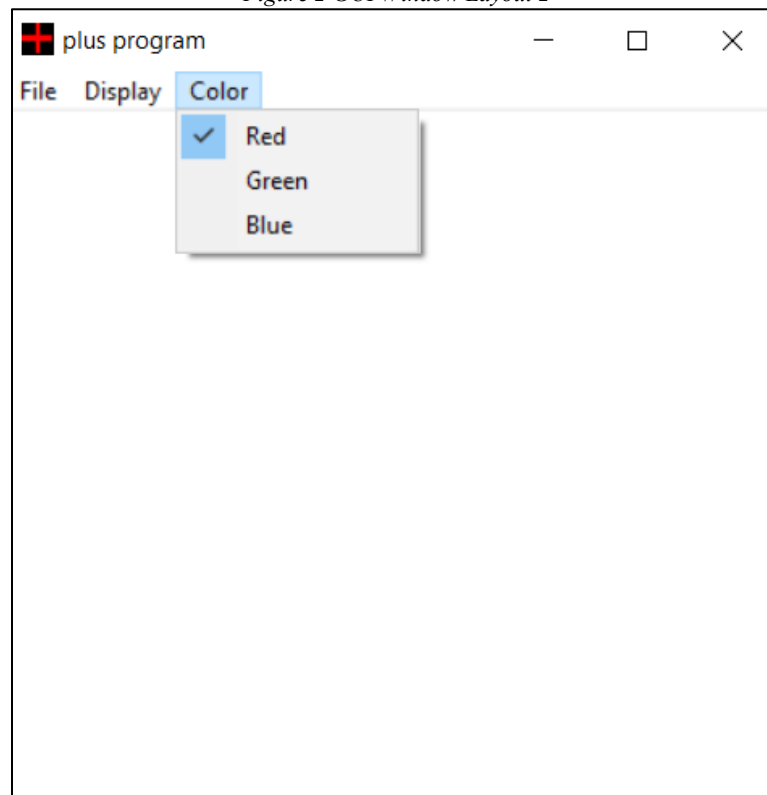*Figure 2 GUI Window Layout 2*

Figure 3 GUI Window Layout 3

Figure 4 After Loading an Image
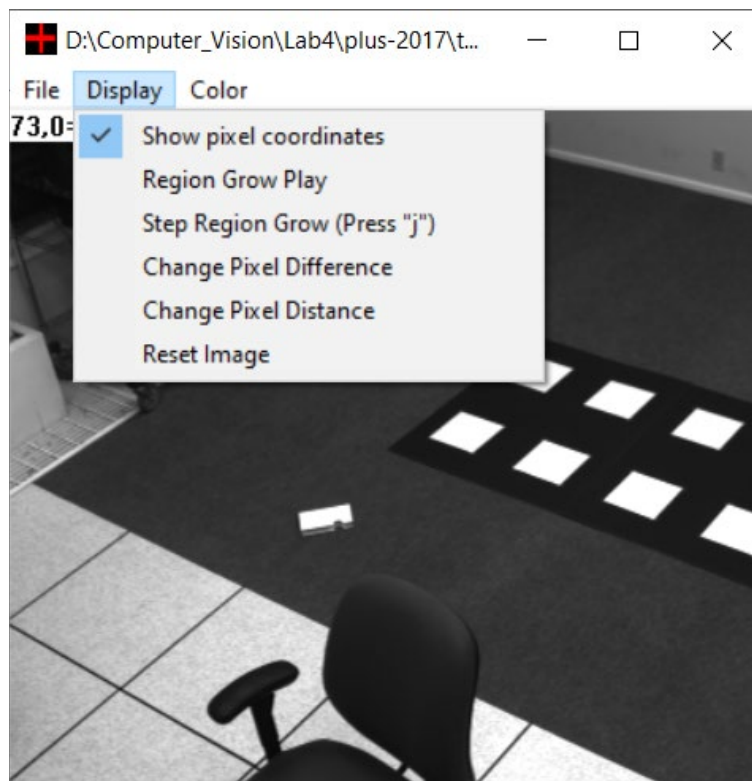
Showing Pixel Coordinates:
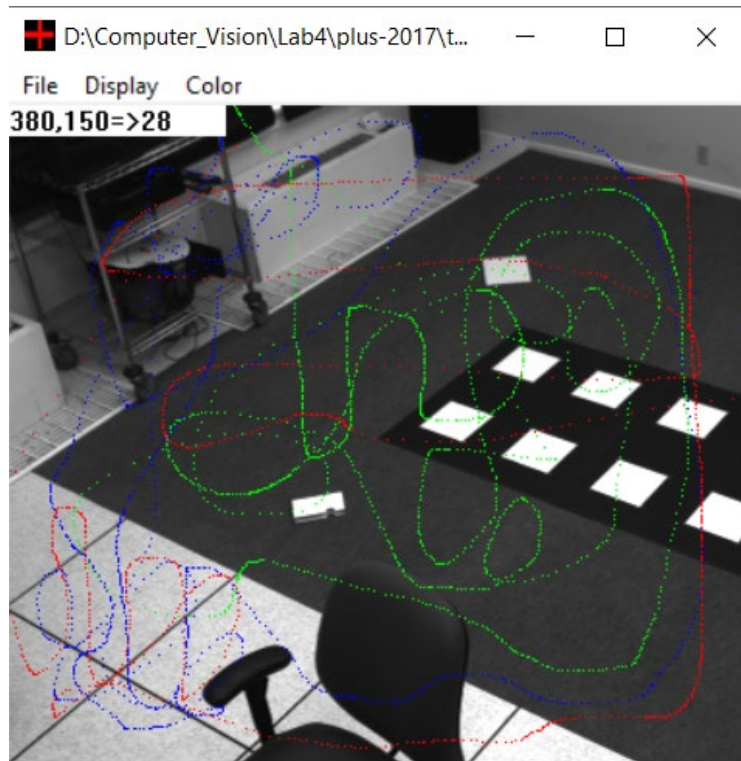

Figure 5 Showing Pixel Coordinates

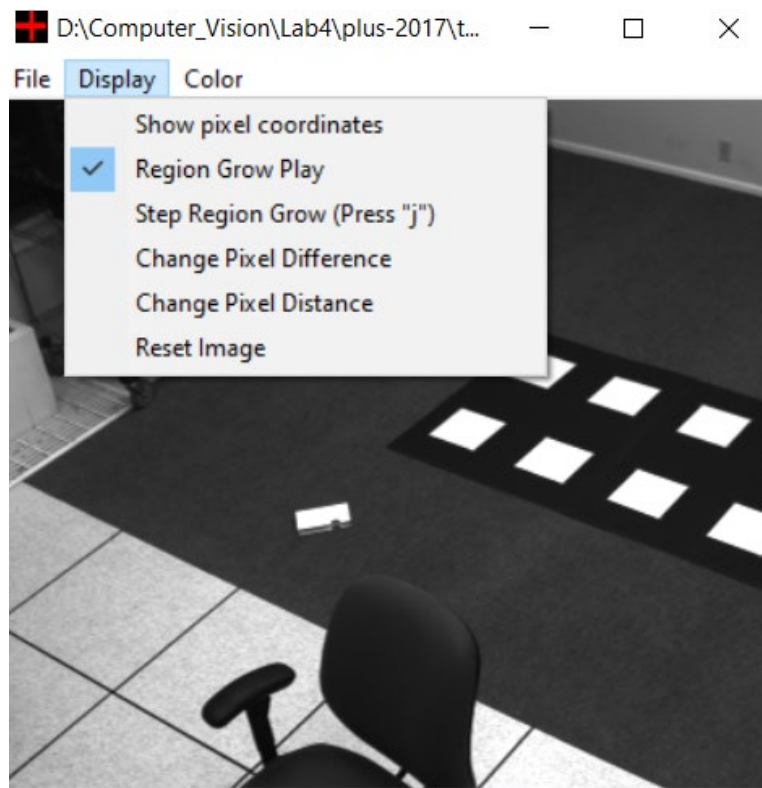*Figure 6 Three different color traces.*

Region Grow Play:

Figure 7 Region Grow

Figure 8 Default region grow for 3 different sections with 3 different colors
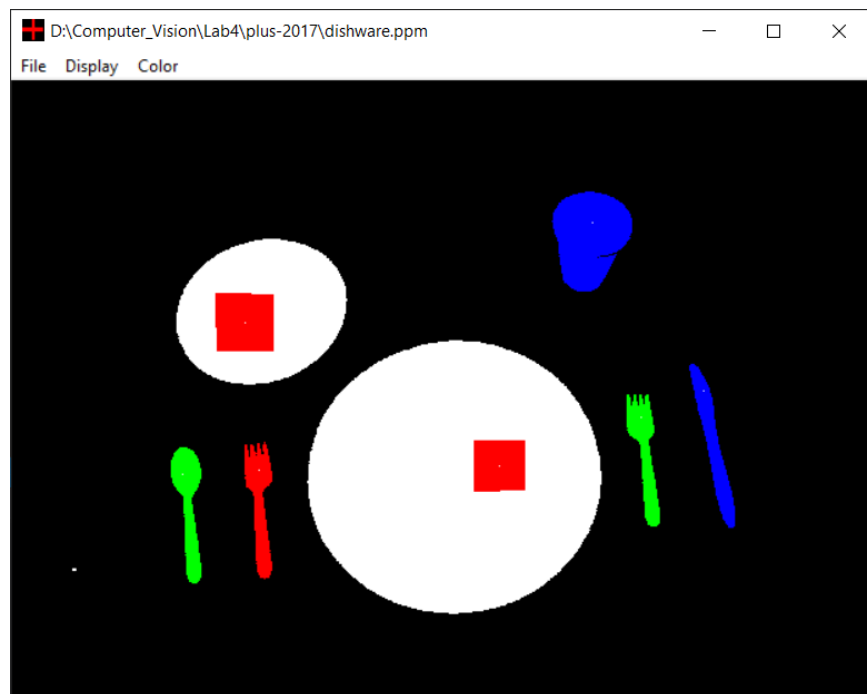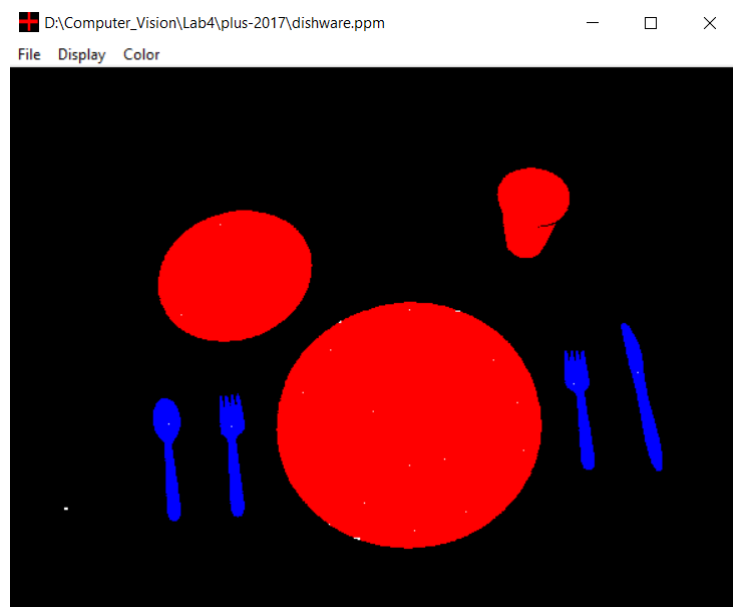

Figure 9 Region Grow Example 2 (In Progress)
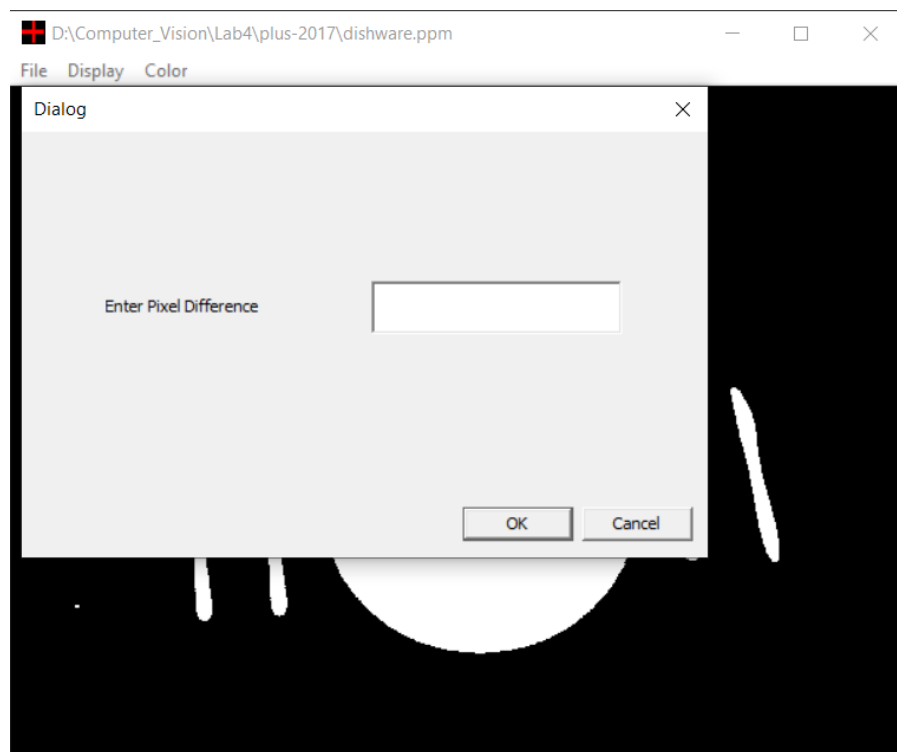
Two Predicates Dialog Box:

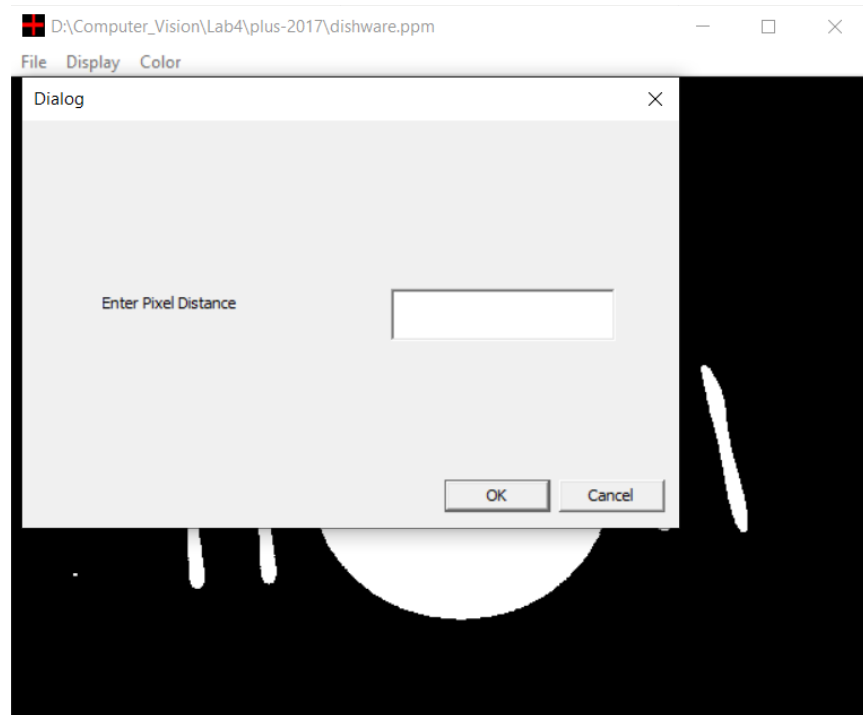*Figure 10 Pixel Difference Dialog Box*

Figure 11 Pixel Distance Dialog Layout

Pixel Distance:

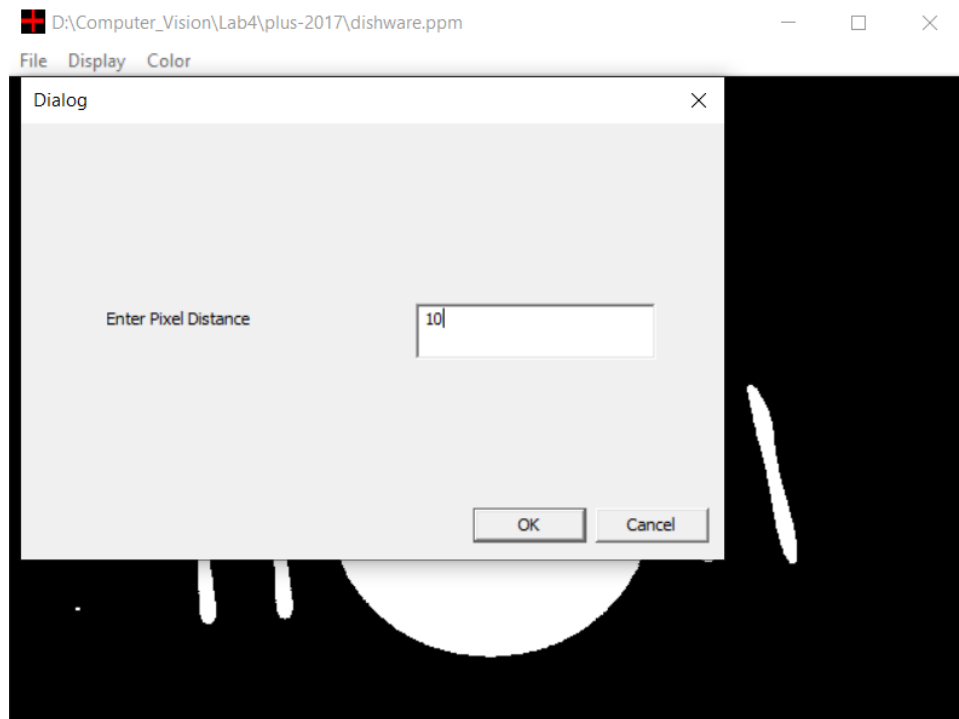For Pixel distance of 10 below is the example.
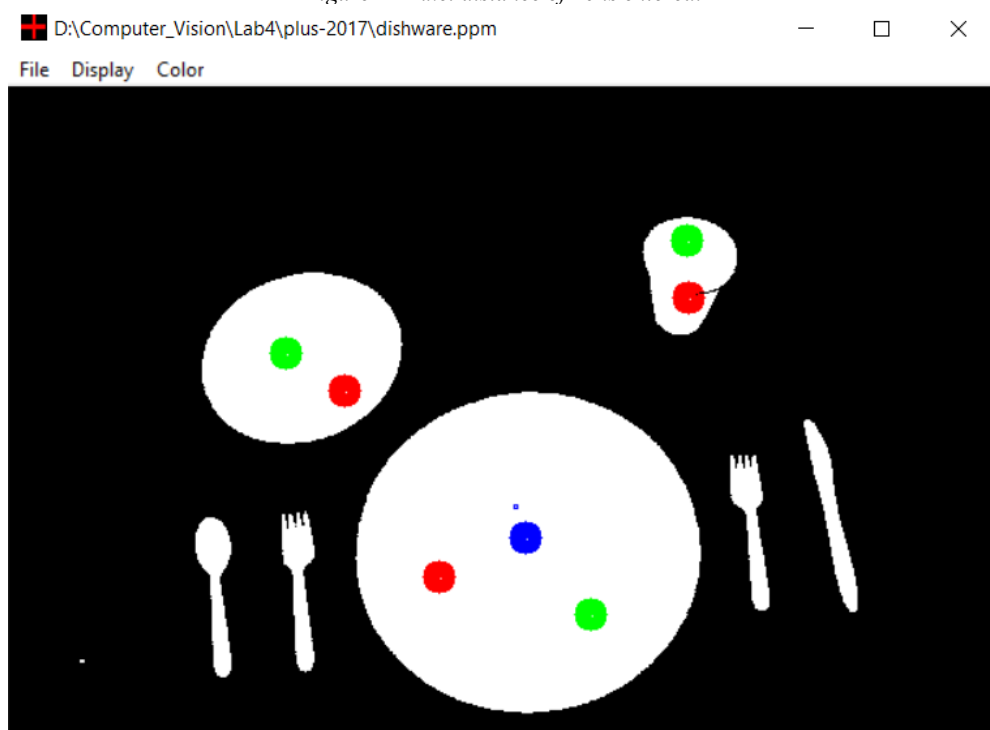
Figure 12 Pixel distance of 10 is entered.

Figure 13 Three different colors used for Pixel distance of 10 at different places.

Pixel intensity difference:

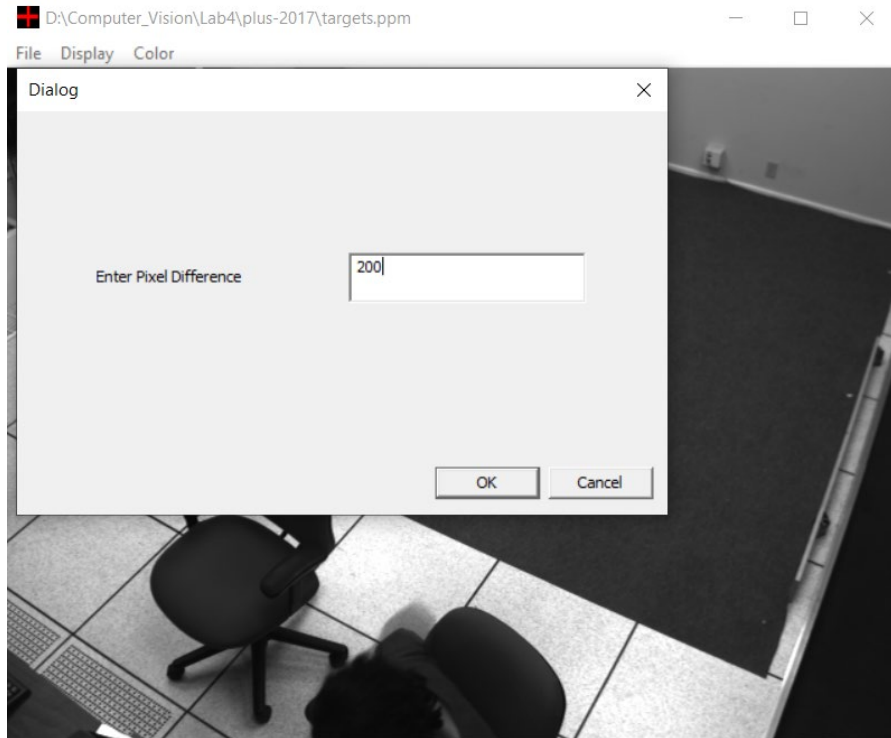For pixel intensity difference of 200 is used for below example.

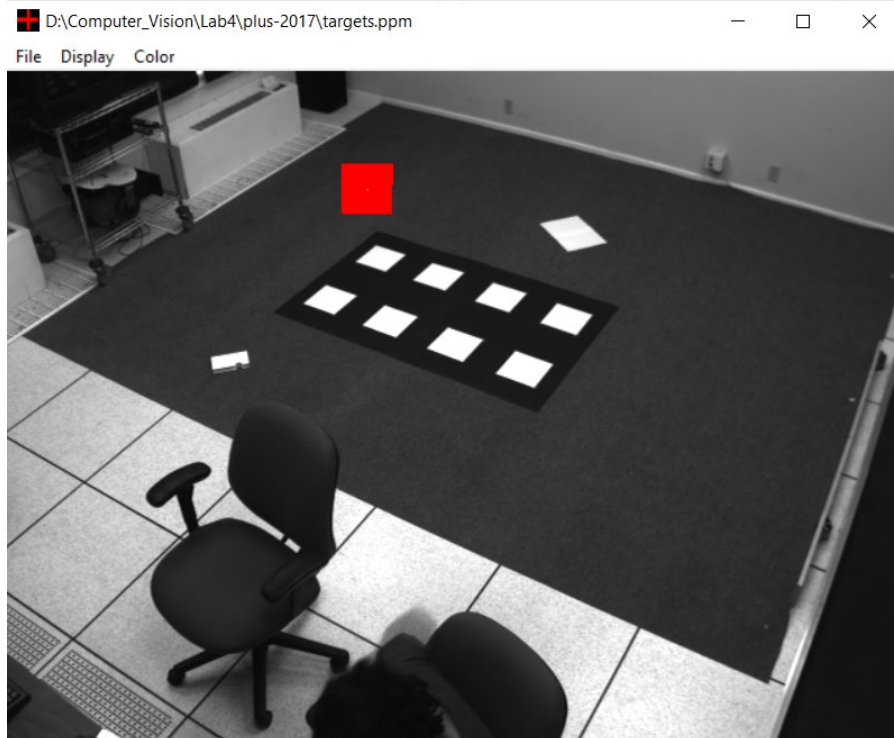*Figure 14 Pixel difference of 200 is entered.*

Figure 15 With Pixel difference of 200 the region grows beyond the section.

It is visible that due to pixel intensity difference 200 the region grow goes beyond the section.
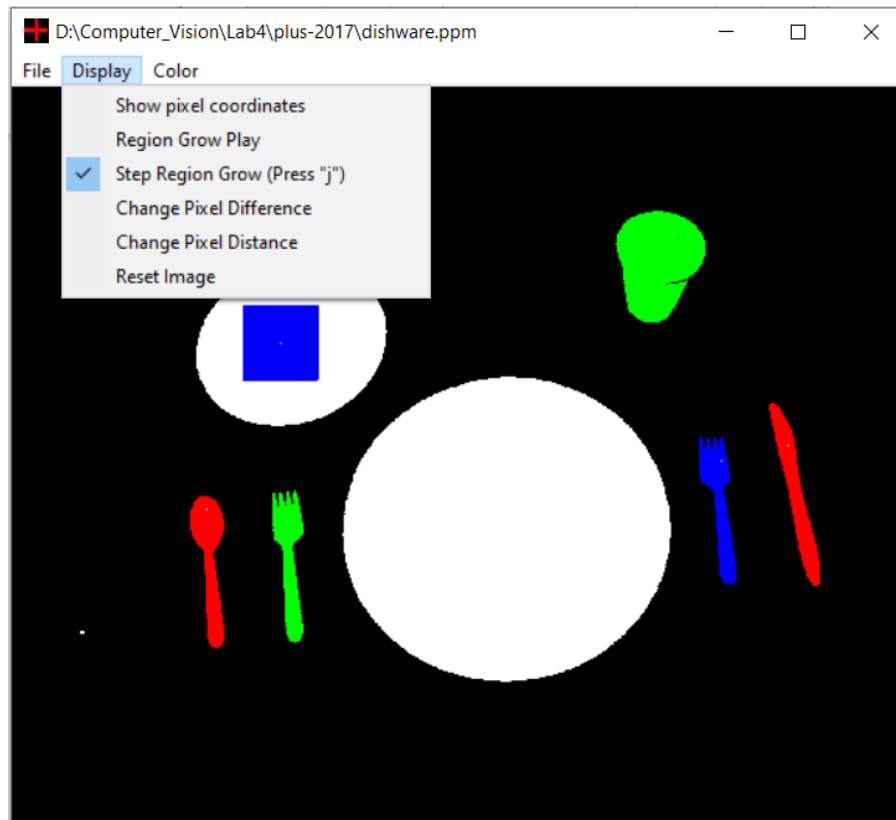
Step Grow:

Figure 16 Step Grow selected.

Showing step grow is not possible in images when I click on the step grow the region grow is halted and only starts when I press the letter j on the keyboard.