

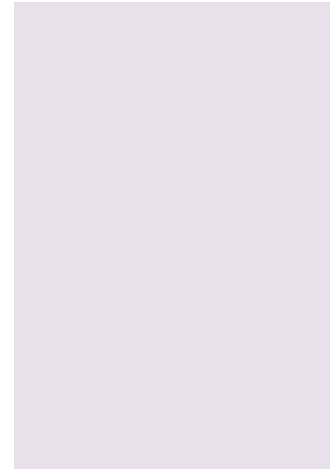
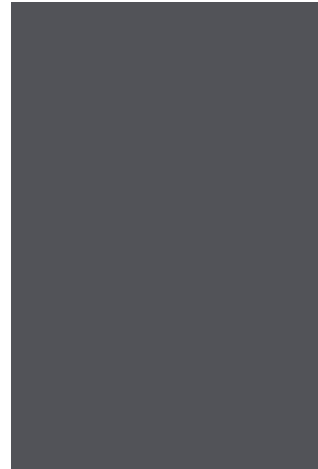
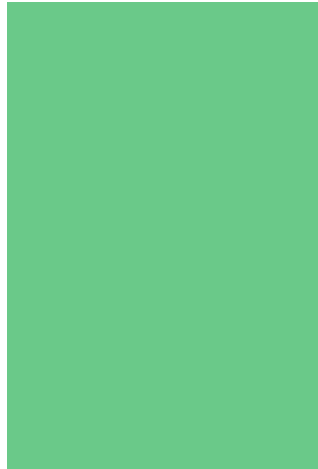
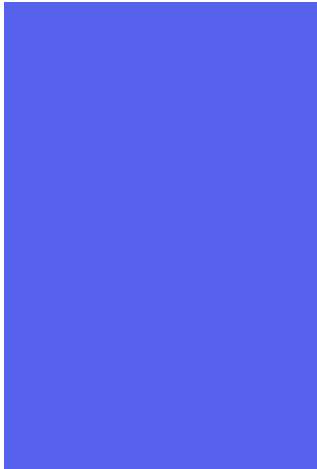
Exercise 3 - Simultaneous Contrast

Name: Edward Locke Due Date: December 7, 2020

Instruction: Colors change when surrounded by or touching other colors. Test your understanding of the perceptual effect called *Simultaneous Contrast* by making one color look like six colors. Below is a palette of colors and below that are three sets of two large rectangles. Find the **one** color from the palette that changes the **most** when surrounded by the colors of the six large rectangles. To do so, select a color from the palette that you think will change the most and drag and drop it into the center of the blue rectangle. Continue to drag and drop the *same* color into each of the six rectangles. View from a distance or squint your eyes. Does the color now *clearly* look like six different colors? If not, return those colors to the palette and try another color. For comparison, save each of your experiments as a unique document, open all of them, reduce the viewing size of each document so that you can view all of them on one screen, and determine which color changes the most.

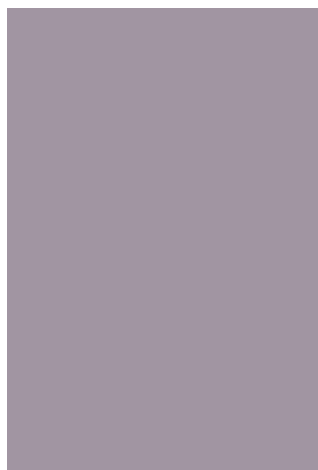


The Rectangle Swatches:



Change in hue

Change in value



Change in chroma

The outcomes of the experiment:

- (1) The Color No. 4 (Red) from the palette changes the most when surrounded by the colors of the six large rectangles, notably in the change in value (*Figure 1A*).
- (2) The color that clearly look like one of the six different colors is Color No. 5, a tone of Violet Red (*Figure 1B*)

Procedure for reaching the conclusions:

- (1) The initial observation is made by viewing from a distance or squinted eyes at all samples placed side-by-side. As shown in *Figure 2A*, from all 9 samples, Colors No. 3, 5 and 9 are close to neutral gray and black and undergo almost no change. This observation can be confirmed by the grayscale image of the screenshot (*Figure 2B*). Thus, they have been excluded. Neutral colors produce the least changes here.
- (2) The comparison of the remaining 6 samples (Colors No. 1, 2, 4, 6, 7, and 8) leads to the conclusion that Colors No 4 (Red) and 8 (Blue) appear to show greater changes than others, notably in the change in value (*Figure 3*). Therefore, Colors No. 1, 2, 6, and 7 have been excluded. Duller or pastel colors produce little changes; and brighter colors produce the greater changes here.
- (3) The final comparison between Colors No. 4 (Red) and 8 (Blue) leads to the conclusion that Color No 4 (Red) from the palette changes the most when surrounded by the colors of the six large rectangles, notably in change in value (*Figure 4A*). This can be confirmed by looking at the grayscale image of both colors (*Figure 4B*). Red is lighter than blue and produces greatest change in this experiment.

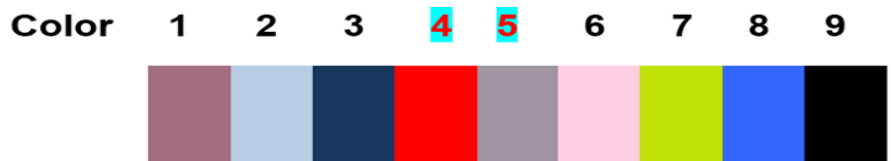
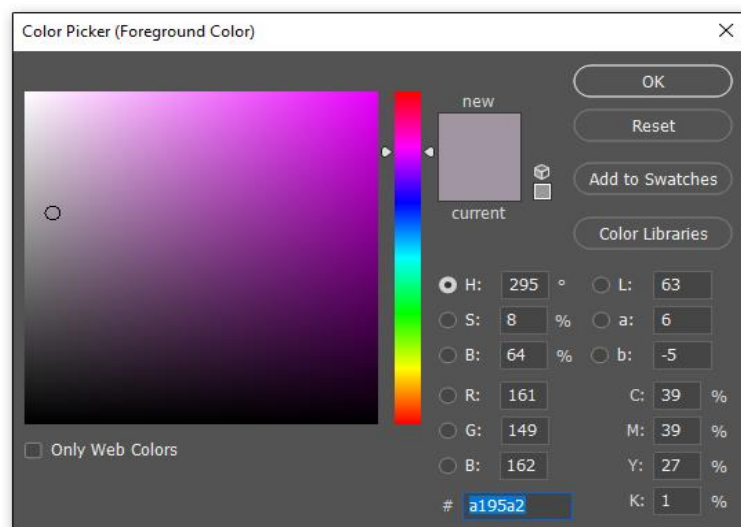
The Palette:

Figure 1A. The Colors No. 4 and 5.



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Figure 1B. Color No. 5, a tone of Violet Red, has the same hue, value and chroma as one of the six different colors.

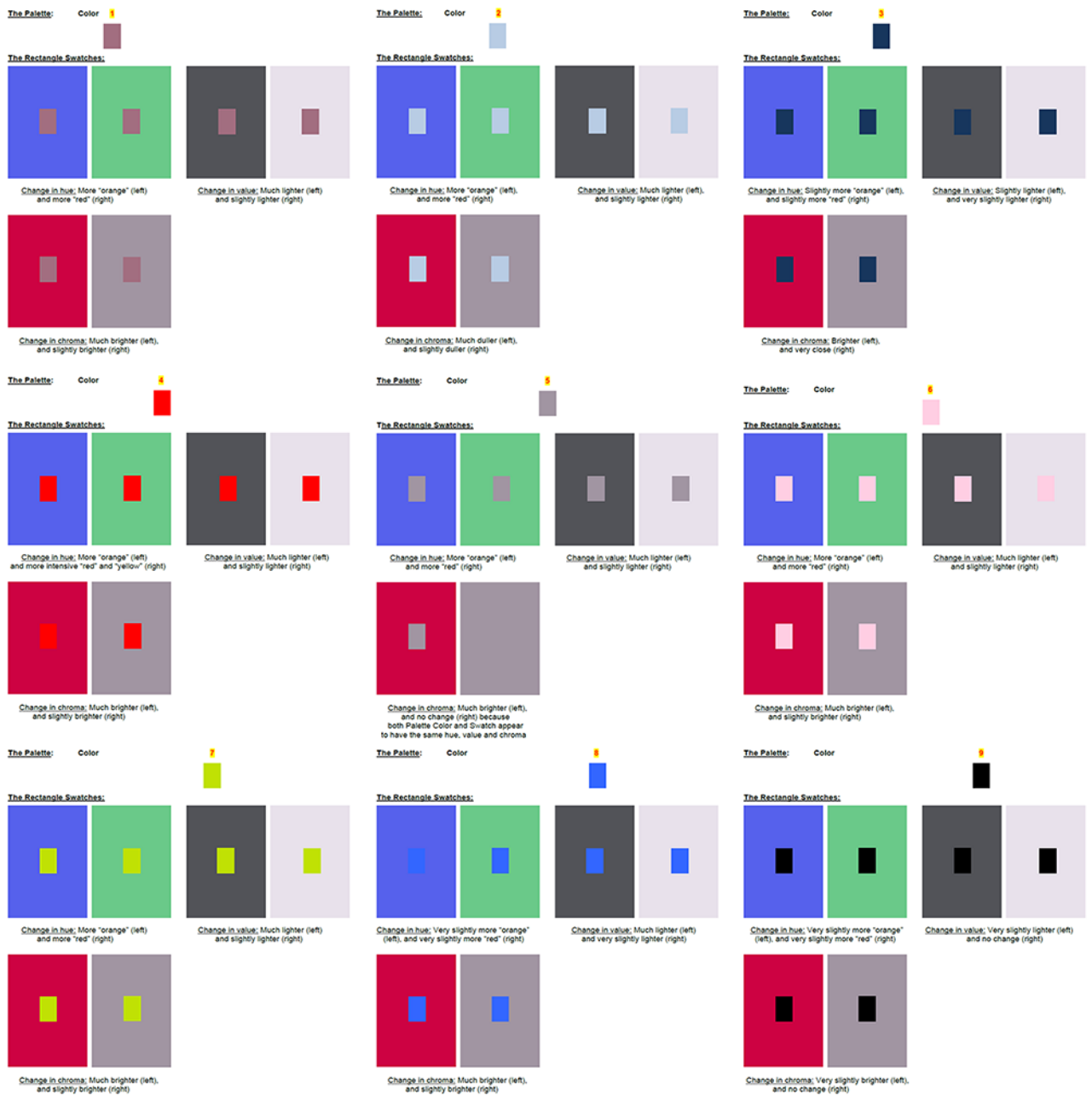


Figure 2A. All 9 samples in the experiment.

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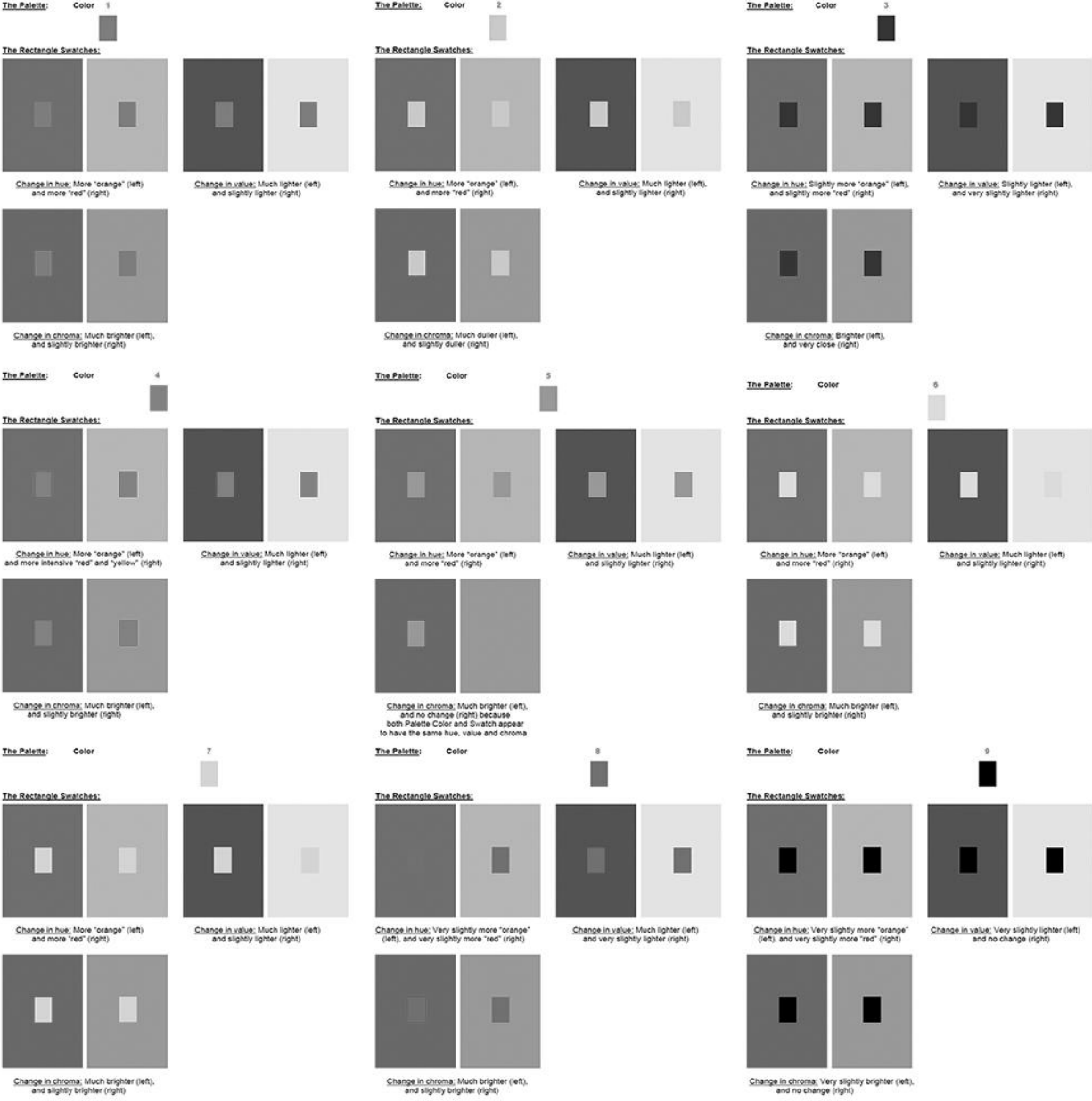


Figure 2B. Grayscale image of all 9 samples in the experiment.

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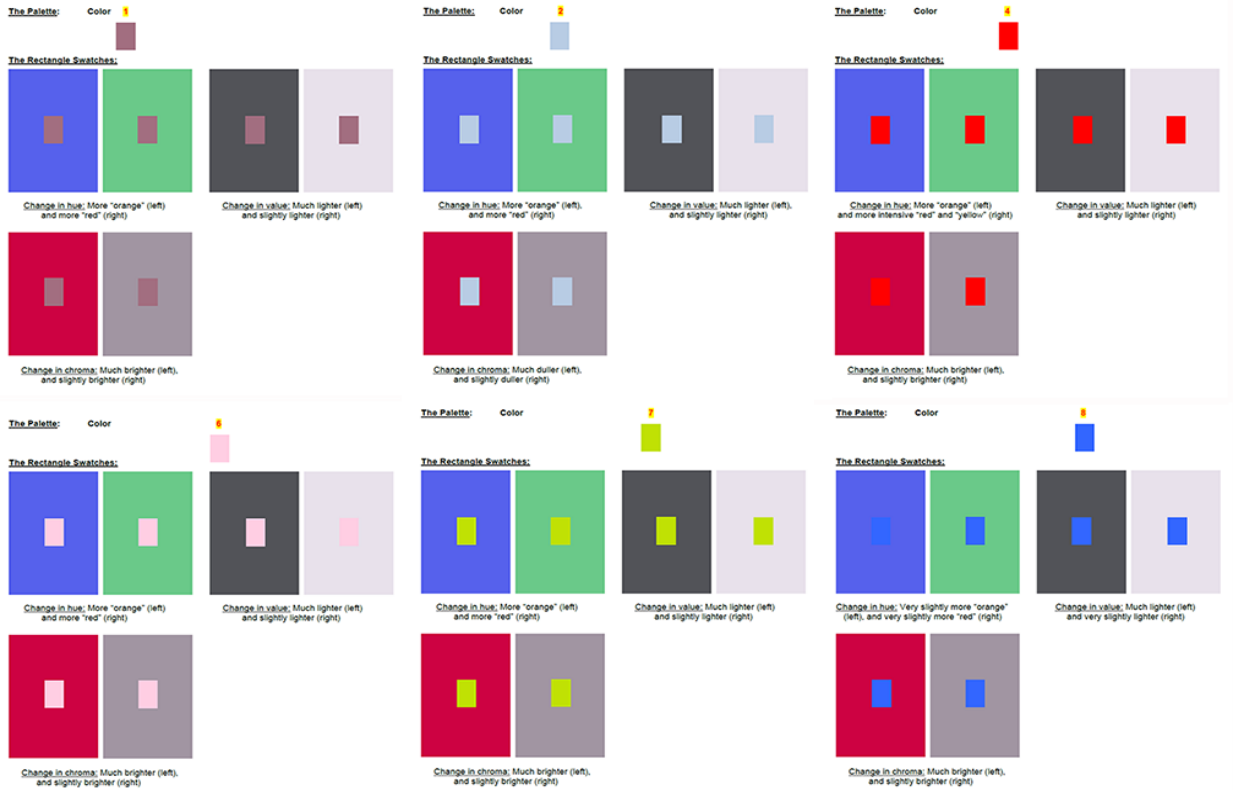


Figure 3. The comparison of the remaining 6 samples (Colors No. 1, 2, 4, 6, 7, and 8).

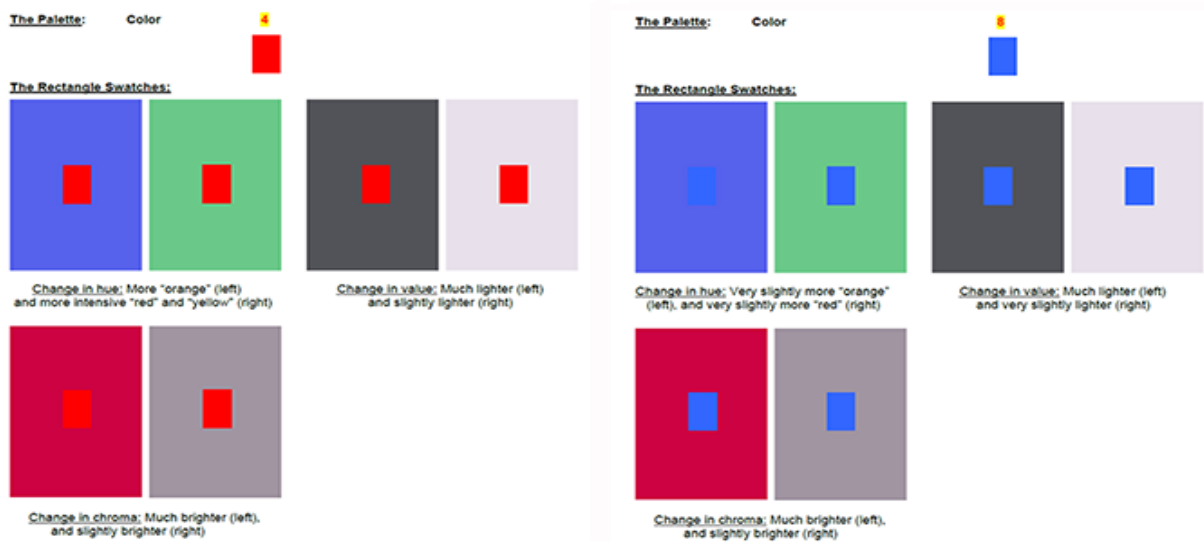


Figure 4A. The final comparison between Colors No. 4 (Red) and 8 (Blue).

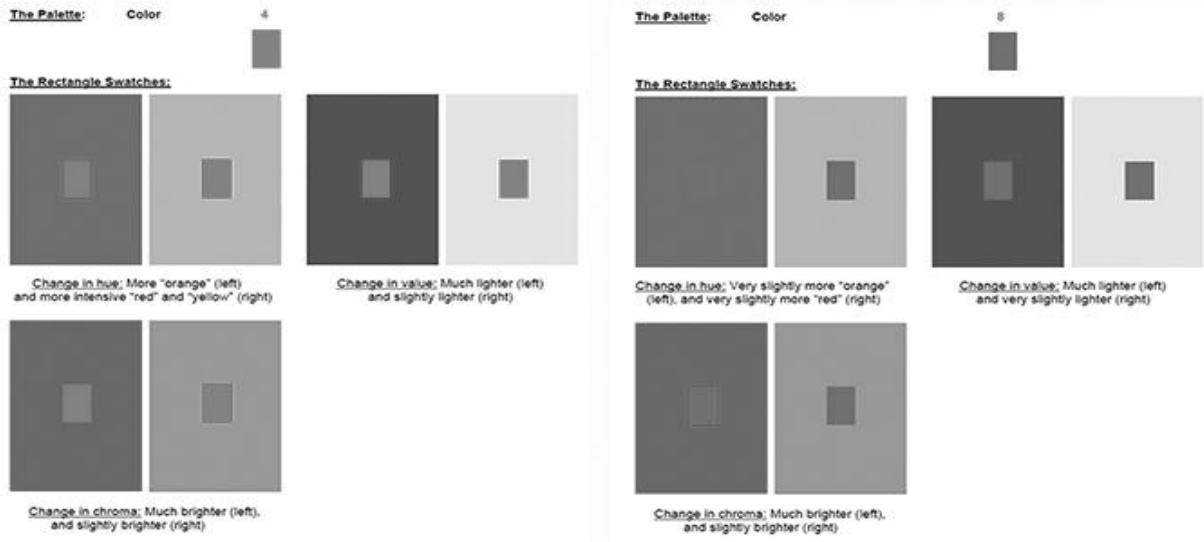


Figure 4B. The Colors No. 4 (Red) and 8 (Blue) compared in grayscale image.

Attachment (MS files covering the experiment):

- (1) Exercise 3_Simultaneous_Contrast_Experiment_1_EL
- (2) Exercise 3_Simultaneous_Contrast_Experiment_2_EL
- (3) Exercise 3_Simultaneous_Contrast_Experiment_3_EL
- (4) Exercise 3_Simultaneous_Contrast_Experiment_4_EL
- (5) Exercise 3_Simultaneous_Contrast_Experiment_5_EL
- (6) Exercise 3_Simultaneous_Contrast_Experiment_6_EL
- (7) Exercise 3_Simultaneous_Contrast_Experiment_7_EL
- (8) Exercise 3_Simultaneous_Contrast_Experiment_8_EL
- (9) Exercise 3_Simultaneous_Contrast_Experiment_9_EL