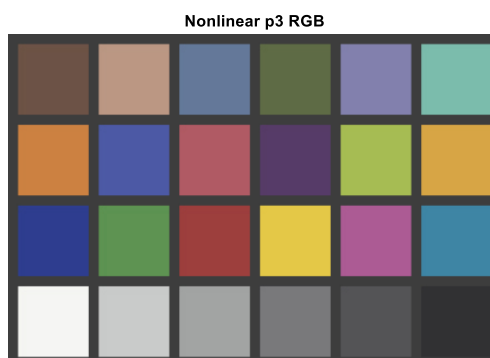
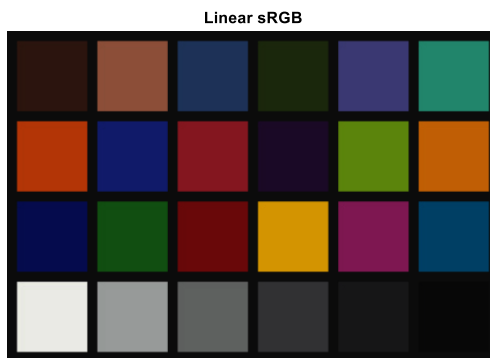
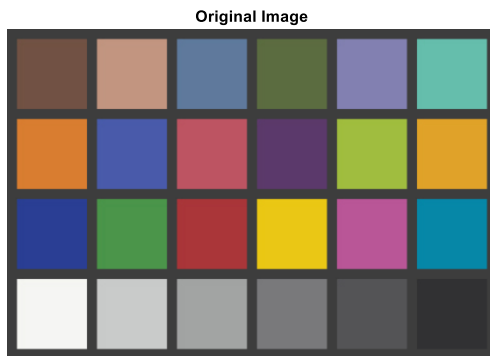


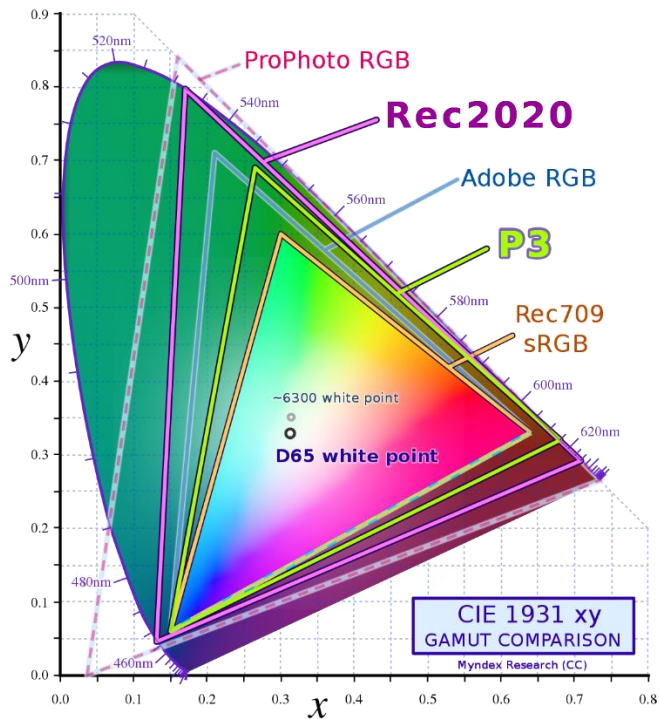
# Project 1

## Elkhan Ismayilzada

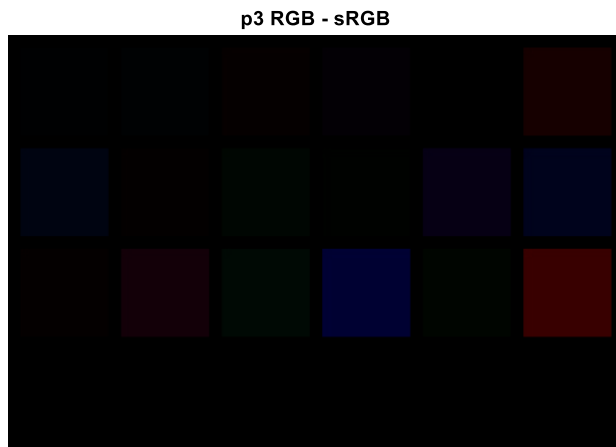
Here are the visualizations of original, linear sRGB, nonlinear p3 RGB images. The minimum and maximum values of image are 1, 247 respectively.



As can be seen from the images, the nonlinear p3 RGB looks pale. This is because sRGB has smaller color gamut compared to p3 RGB which means that some colors in the sRGB image may not be representable in the P3 RGB color space as can be seen from the following picture.



And here is the visualization of difference between p3 RGB and sRGB.



The average and maximum of color difference are 0.0070 and 0.0174 respectively.

The average and maximum of color difference in 10-bit precision are 0.0820 and 0.4711 respectively.

The average and maximum of color difference in 8-bit precision are 0.2797 and 1.4356 respectively.

The average and maximum of color difference in 6-bit precision are 1.0359 and 4.7959 respectively.

## Implementation

The file contains a function `step_1_6` which performs all the operations. It accepts two arguments:  
`for_loop`: boolean, `integer_precision`: integer.

1. `for_loop = true, integer_precision = 0` → steps in problem 1
2. `for_loop = false, integer_precision = 0` → steps in problem 2
3. `for_loop = false, integer_precision = 6, 8, 10` → steps in problem 3 with 6, 8 or 10-bit precisions.