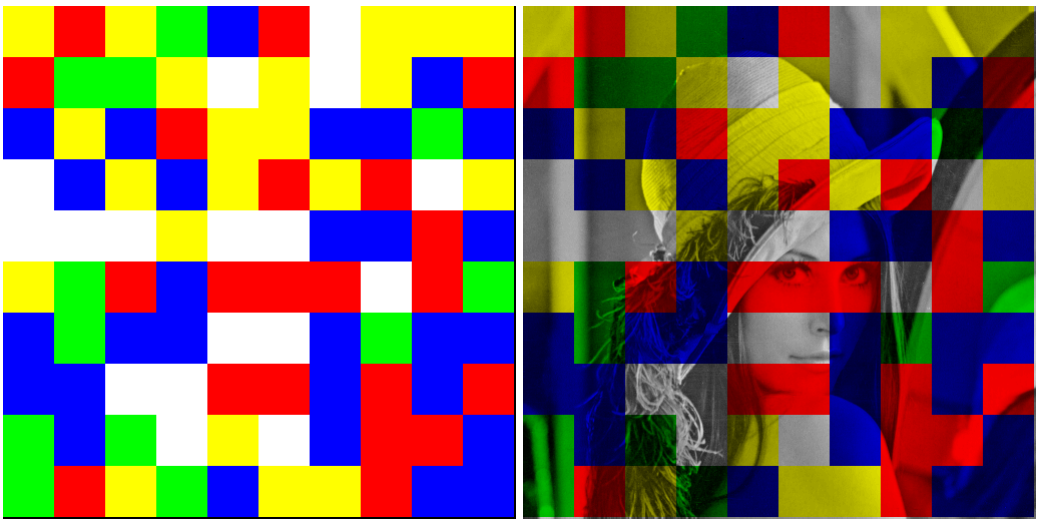
Computer Graphics - Class 6 (Lab class 4)

1. Implement a function that converts an input RGB image to grayscale, by projecting all the colors to the achromatic line.
2. Following the same idea, implement again the same but, instead of projecting into the achromatic line, this time project into the line defined by specific colors of your choice (see examples below)
3. Use the exercise of the board with random colors (or create any other way that you like) to create the effect of different color scales in the same image.
   Notice that with this technique and the correct mask you can produce, for example, the effect that we can observe in some movies of changing the color scale of parts of the image (See the last picture)

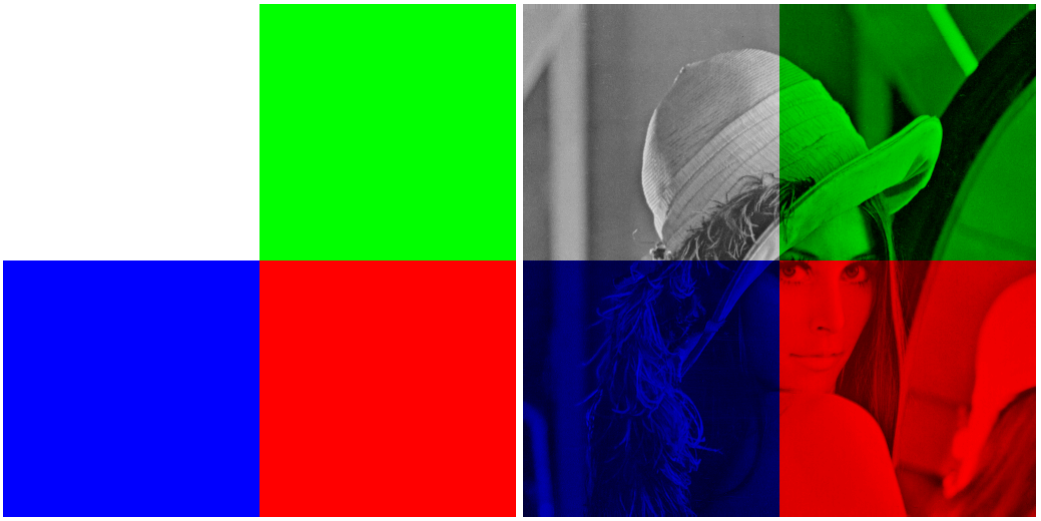
EXAMPLES
Original

Colors projected on the line defined by the origin and (255, 255, 255) (the achromatic line), (0, 0, 255) (blue), (0, 255, 0) (green), and (255, 0, 0) (red)

Instead of projecting all the pixeles onto the same line, we project the color of each pixel onto the line defined by the color specified in an auxiliary image. Example:



Another example



Picture from the movie "The Schlinder's List":