2. The Blackbody Color Problem

Description:
In the image processing program, Corel PhotoPaint, there is an image processing filter known as "The Blackbody Filter." The blackbody filter takes a source image and converts each pixel such that the color of the red component of each pixel is always greater than or equal to the green component and the green pixel component is always greater than or equal to the color of the blue pixel (i.e. R ≥ G ≥ B). Furthermore, the sum of the components is either equal to or minimally less than the original. The effect of this processing filter is such that it makes cool images (images with lots of greens and blues) look hotter (Figures 1 and 2).

Figure 1
Original Image

Figure 2
Image After Blackbody

Given the sample input below, which must be a text file containing a list of colors, convert each color to the closest blackbody color (where R ≥ G ≥ B). Each color (line) in the text file is defined by a comma separated list of color components.

red component, green component, blue component

Each color component is a single-byte integer ranging from 0 (weakest) to 255 (strongest). Output your results to another text file using the same format as the input file, but with all colors converted to the blackbody format.

Sample Input
0, 0, 0
255, 0, 0
0, 255, 0
0, 0, 255

Sample Output
0, 0, 0
255, 0, 0
127, 127, 0
85, 85, 85