IYTE EE 431 Intro. to Image & Video Processing
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Homework 3 Due Dec 14 2022

(To be done by previously assigned teams.)

Develop a program using the supplied library that performs Gauss filtering on color images.
Color version of the Gauss filter should be implemented as a function:

```
color **cgaussf (**color img, int flag, int NC, int NR, int count)
```

which should first convolve the specified channels of image `img` by a horizontal mask [1 2 1] and then a vertical mask $\begin{bmatrix}1\\2\\1\end{bmatrix}$. This 3x3 convolution is applied `count` times. The argument "`flag`" can take four values:0,1,2,3. When "0" value is used Gauss filtering is done for all three of the RGB channels of the image. When 1,2,3 values are used, Gauss filtering is applied only to a specific channel (i.e. R for "1", G for "2", B for "3").

The main function should read two parameters in the command line: file name and a count value.
It should process four quadrants of the image differently:

Q1	Q2
Q3	Q4

For the top-left quadrant (Q1) of the image, the filter should be applied to all three channels. Only "R" channel should be filtered in Q2. Similarly, "G" channel should be filtered for Q3, "B" channel should be filtered for Q4. In all cases filtering is done "`count`" times.

The program should be executed as:

```
./hwk3.exe baboon.ppm 1
```

The following 512x512 ppm test images will be supplied:

You should submit a C file named hwk3.c including comments on how to compile & run the program.
This file should be submitted via Teams at or before due date.