IYTE EE 431 Intro. to Image & Video Processing
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Homework 2 Due Nov 16 2022

(To be done by previously assigned teams.)

Develop a program using the supplied library that performs:
- Gauss filtering
- Median filtering

Gauss filter should be implemented as a function:

```
unsigned char **gaussf (**unsigned char img, int NC, int NR, int count)
```

which should first convolve the 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.

Median filter should be implemented as a function:

```
unsigned char **medianf (**unsigned char img, int NC, int NR, int count)
```

which should return an image whose pixels are replaced by median values in a 3x3 neighborhood. This operation is repeated `count` times.

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

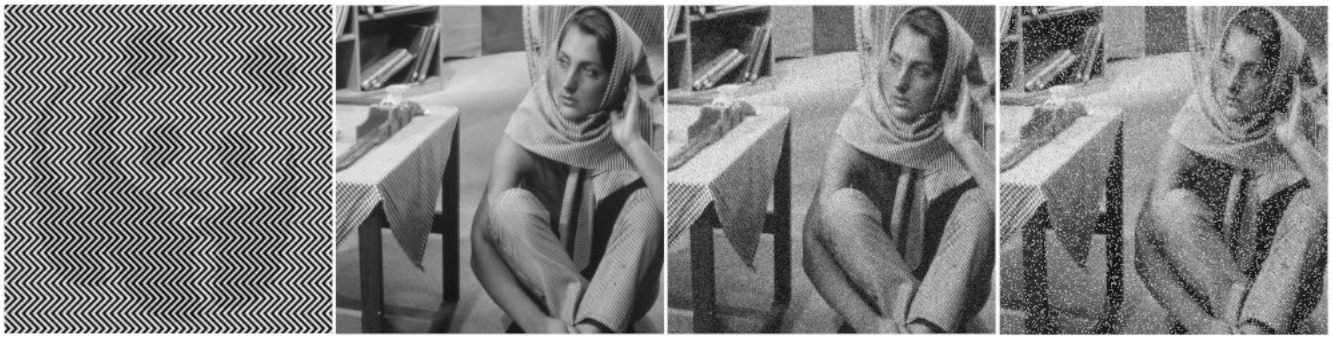
Q1	Q2
Q3	Q4

If flag value is "1" Gauss filter should be applied once to the quadrant Q1, twice to Q2, three times to Q3, four times to Q4. Output image should be written as a single pgm file named gauss.pgm.
If flag value is "2" Median filter should be applied once to the quadrant Q1, twice to Q2, three times to Q3, four times to Q4. Output image should be written as a single pgm file named median.pgm.

The program should be executed as:

```
./hwk2.exe panda.pgm 1
```

The following test images will be supplied:



You should submit a C file named hwk2.c and a short pdf report in which you briefly explain your code, give instructions on how to compile & run the program and show the results for test images. These two files should be submitted via Teams at or before due date.