IYTE EE 431 Intro. to Image & Video Processing
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Homework 2 Due Nov 13 2023

(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 vertical mask $\begin{bmatrix}1\\2\\1\end{bmatrix}$ an then a horizontal mask [1 2 1]. 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 a file name and a "count" value in the command line. It should create an image of size NR x 3NC in which :

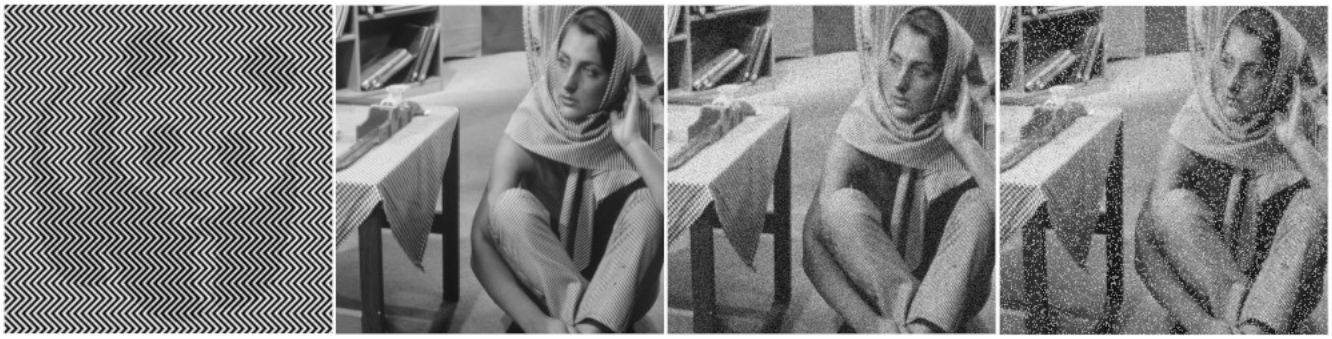
Im1	Im2	Im3

Original image is displayed on the left (Im1). "count" times Gauss filtered version is displayed in the middle (Im2). "count" times Median filtered version is displayed on the right (Im3).

The program should be executed as:

```
./hwk2.exe panda.pgm 2
```

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.