Computer Vision HW#9

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**Task Description**

Implement zero-crossing on the following 5 types of images to get edge images (choose proper thresholds):

* Laplace mask type-1
* Laplace mask type-2
* Minimum variance Laplacian
* Laplace of Gaussian (LoG)
* Difference of Gaussian (DoG)

**Programming Language & Tool**

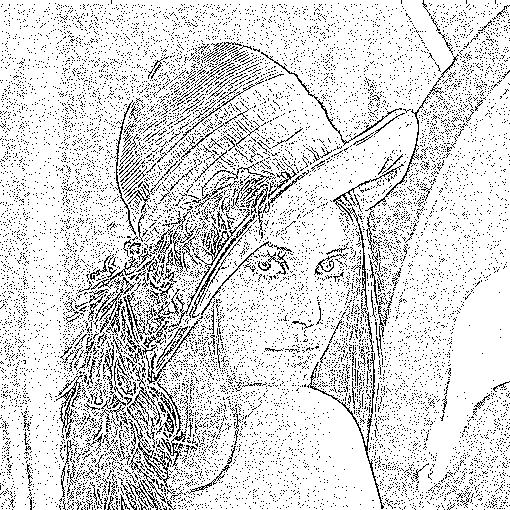
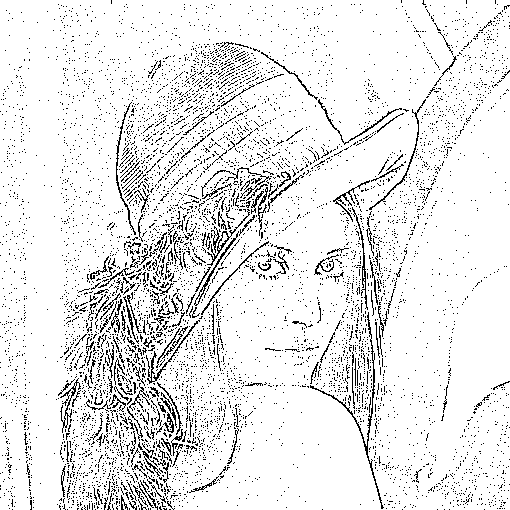
1. Python + Numpy
2. OpenCV (for reading and writing image only)

**Work Flow & Results**

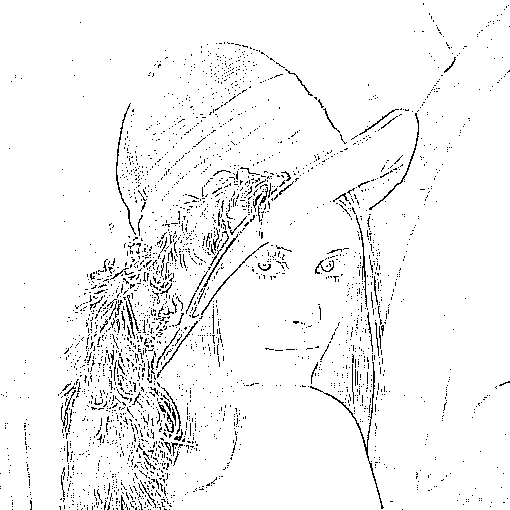
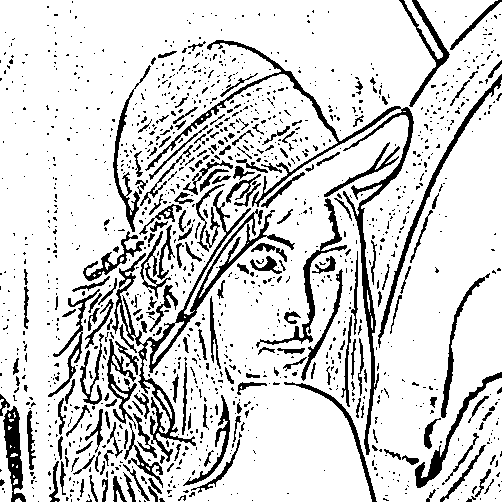
I implement a function called “convolve\_ing” that reads in an image and a kernel and performs convolution with the specified image and kernel. The required 5 tasks can all be done by calling convolve\_img and assign different kernels (the kernels are derived in course slides). My code is very readable and please check for more implementation details.

**Images Generated**

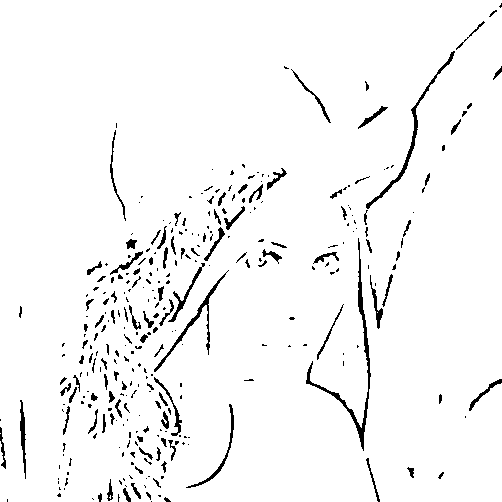
The thresholds come from the course website.

Laplace mask type-1 (15) Laplace mask type-2 (15)

Minimum variance Laplacian (20) Laplace of Gaussian (3000)



Difference of Gaussian (1)

To reproduce the result, execute the following command:

>> ./task.sh

You can specify different thresholds in file task.sh.