Intro

Assignment uses jupyter notebook with `python=3.7.0` and `opencv-python=3.4.2.17`. `Assignment 1.ipynb` uses functions present `helper.py` that contains the implementations of all my custom functions.

Usage:

The notebook `Assignment 1.ipynb` contains all the Questions with all the parts. Run it sequentially.

Question 1

Part a

`helper.py` contains the implementation of `prettyPrint()` for the printing in required format.

Part b

In this part, we see that convolving with a Gaussian filter generated by `gaussian_nor()` of more standard deviation results in a more smoothing or blurring effect on the target image.

Question 2

Part a

Here we use 2 gaussian filters generated by our function `gaussian()` and take the differance, normalize using `normalize()` and store the result in `DOG`.

Part b

In this part, we convolve our image with the filter generated in part(a) of Q2.

Part c

In this part, we call the custom function `detectZeroCrossings()` with attribute `method` set to `0`. This method looks for a -ve 4 neighbors near a positive pixel, if found, the +ve pixel is set to 255 otherwise it is set to 0. If looking at the neighbor of -ve pixel, the value is set to 0 for the -ve pixel.

Report

Check `Report` for the plain report for the assignment.

Additionally:
Look at the ipython notebook for all the questions and their different parts. I have added the results as markdown images so one doesn't need to run the functions to get the results on the images.