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.

One can change the scale with which the images are scaled before convolving. This can done using the paramter `scale` in the function `readImg_Grey_Resize()` (default is set to 1).

Question 1

Part a

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

It's better to scale the images, else it will take a really long time because of unoptimized implementation of `covolv()`

Part b

In this part we see that convolving with a gaussian filter 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_eq()` and take the differance 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()` to mark the pixels within a certain `epsilon` as edges.

Report

Check `Report` for the report for the assignment.

Additionaly:
Look at the ipython notebook for all the questions and thier 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.