COMP9517

Lab 1, T2 2019
Part 2

Task: Experiment with Laplacian operator and Canny edge detector

Question 1: Apply the Laplacian operator on the given image. To do this, define a 2D filter and then perform convolution between the image and the filter. The 2D filter is:

$$F\_laplacian = \begin{bmatrix} 0 & 1 & 0 \\ 1 & -4 & 1 \\ 0 & 1 & 0 \end{bmatrix}$$

The filtering output should be the same as the output given by the OpenCV built-in Laplacian function.
https://opencv-python-tutroals.readthedocs.io/en/latest/py_tutorials/py_imgproc/py_gradients/py_gradients.html

Inspect the output images. What is the difference between the Laplacian output and those from the Sobel operator?

Question 2: Apply the Canny edge detector on the given image and inspect the output.

What is the difference between the outputs from the Canny edge detector and the Laplacian operator?

Detailed information about the Canny edge detector: https://opencv-python-tutroals.readthedocs.io/en/latest/py_tutorials/py_imgproc/py_canny/py_canny.html