Introduction

This program captures image from a web camera, find the brightest and darkest spot on the image without using any OpenCV image processing functions. And mark these spots with small circles: Blue circle for darkest spot and green circle for brightest spot.

Method

I am using sliding windows application with given size kernel over the grayscale images. Program calculates arithmetic mean of every window. Window slides (kernel_size +1)/2 times because of efficiency.

Program usage:

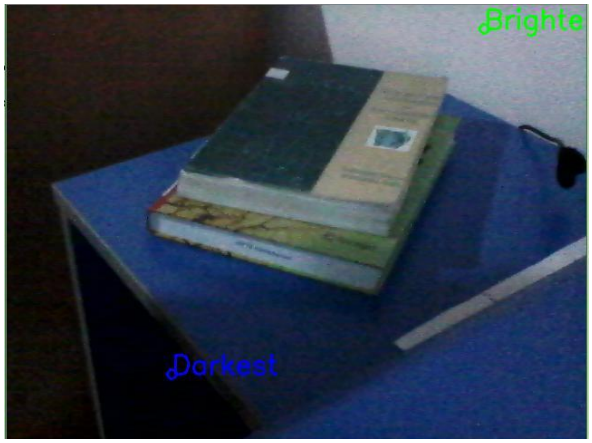
$ python main.py kernel_size

Program taking approximately:

- 0.32 second with kernel size 5
- 0.19 second with kernel size 7
- 0.10 second with kernel size 11
- 0.02 second with kernel size 33

Some screen captures

1. After spot light with the same scene



2. After adding new items

3. Same scene with kernel size 3, kernel size 5, kernel size 11, kernal size 33