Computer vision Lab 1 report

I. Compile file:

Run this command on Mac

```
~/Documents/Stduy/openCv/testOpenCv/openCv on main !2 ?1    at 20:34:00
❯ g++ $(pkg-config --cflags --libs opencv4) -std=c++11 main.cpp -o main
```

II. User guide:

1. Convert a color image into a grayscale image.
    - Calculate the average color of 3 channels pixel
    - Command: ./main -rgb2gray <FileDestinationn>

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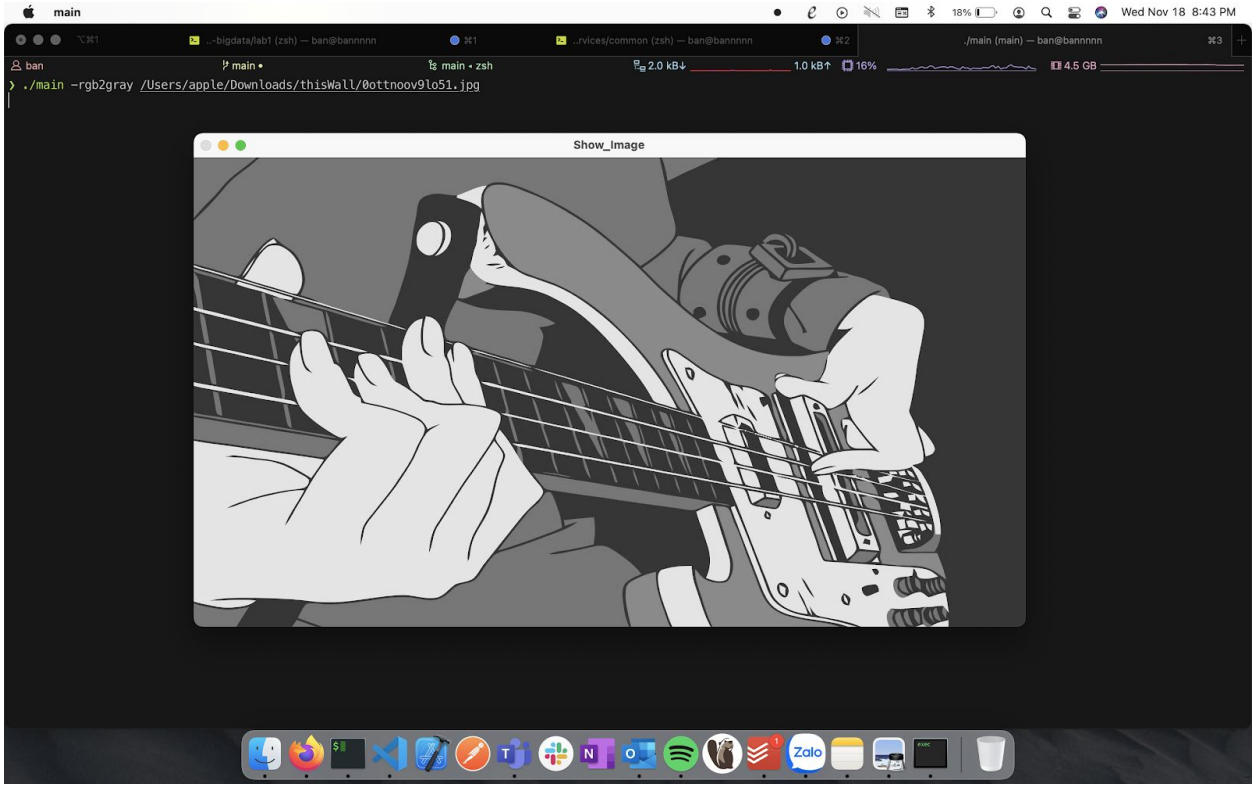
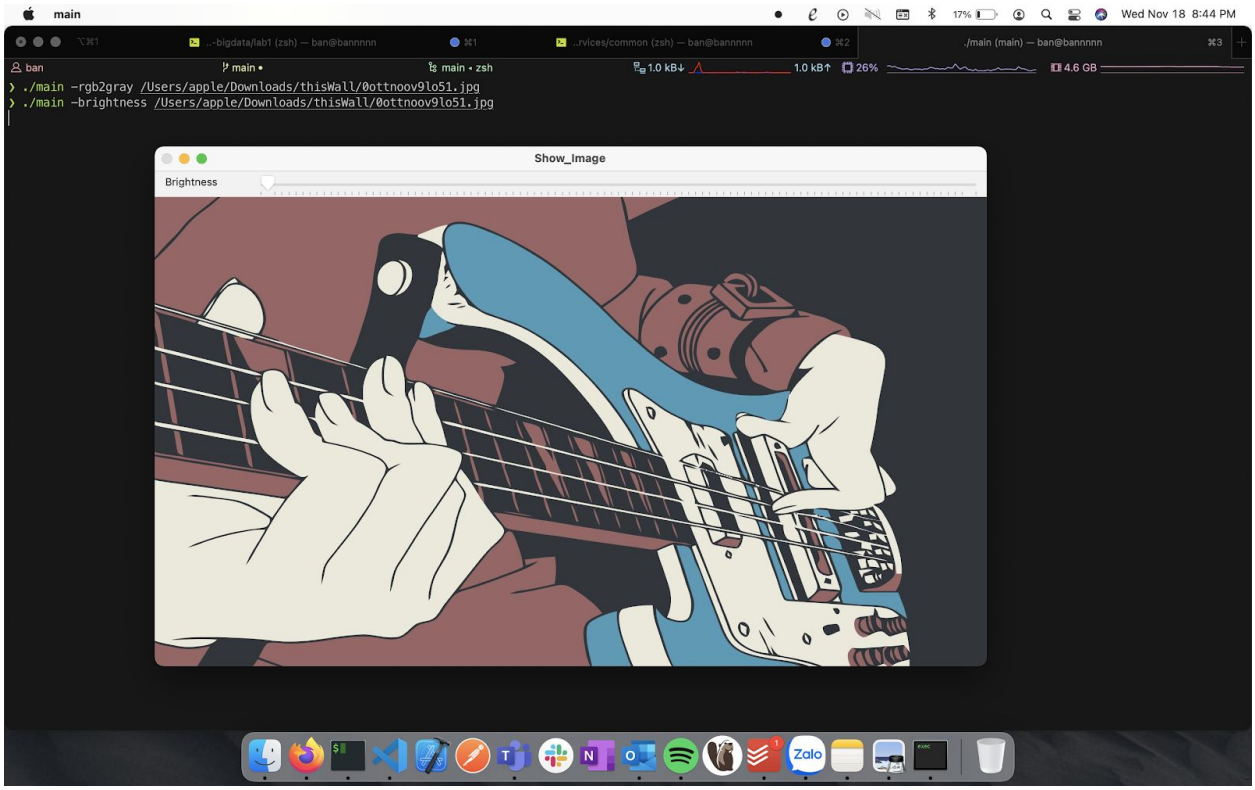
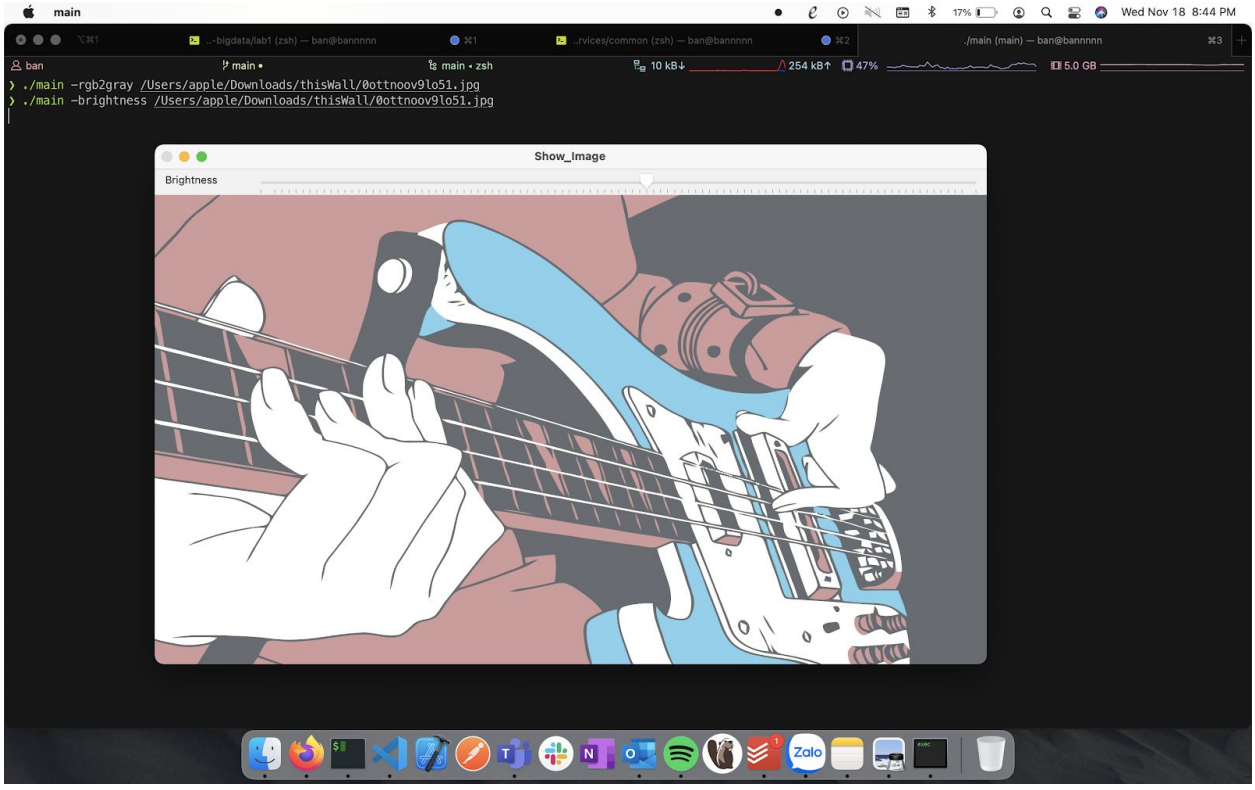


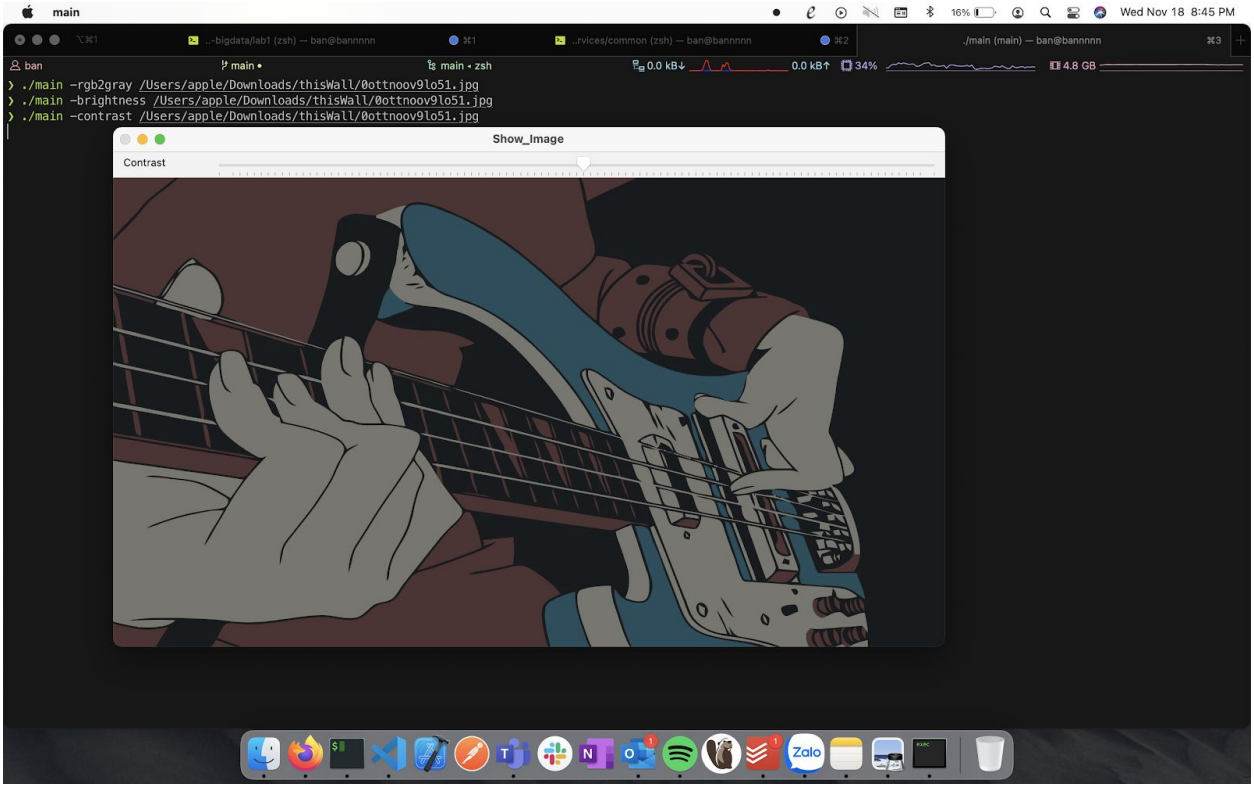
2. Change the brightness of the color image.
    - Add beta to 3 channels pixel, if a channel is larger than 255 set that channel to 255
    - Command: ./main -brightness <FileDestinationn>





3. Change the contrast of the color image
    - Multiply 3 channels pixel with alpha, if a channel is larger than 255 set that channel to 255

- Command: ./main -contrast <FileDestinationn>



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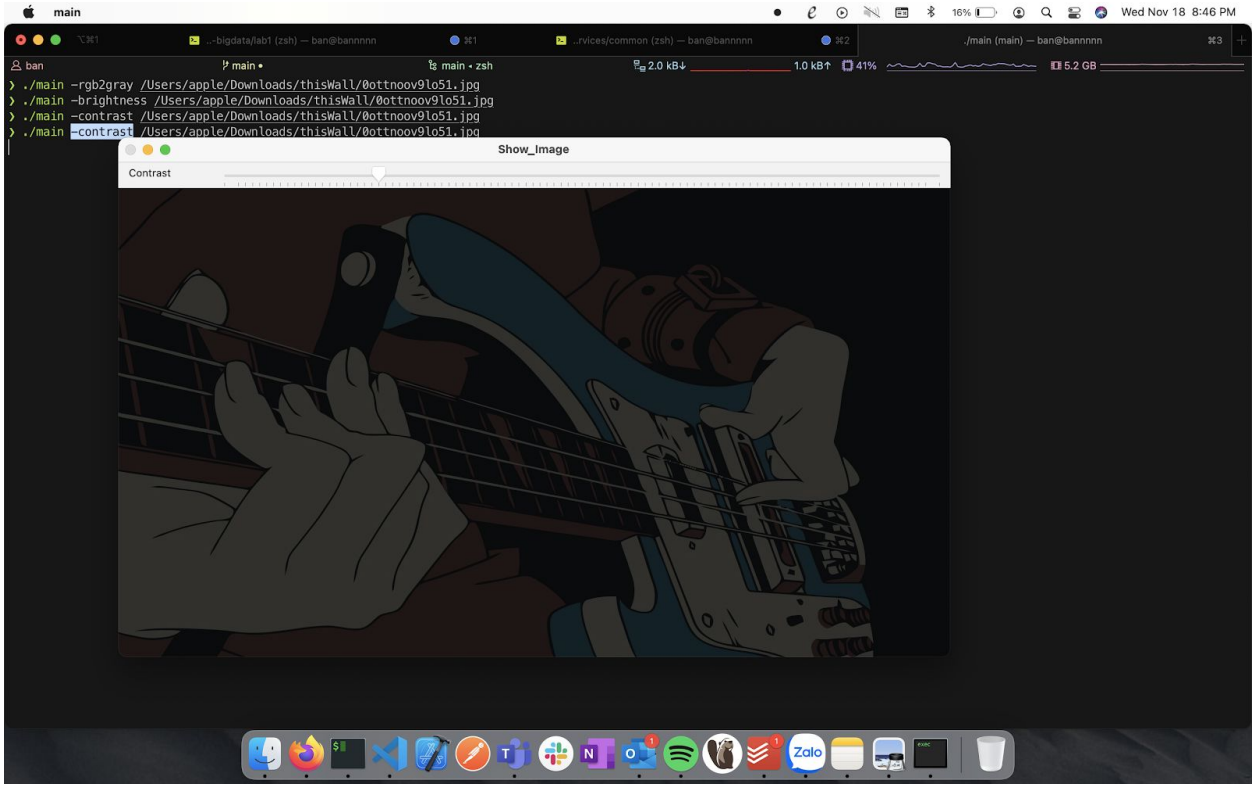
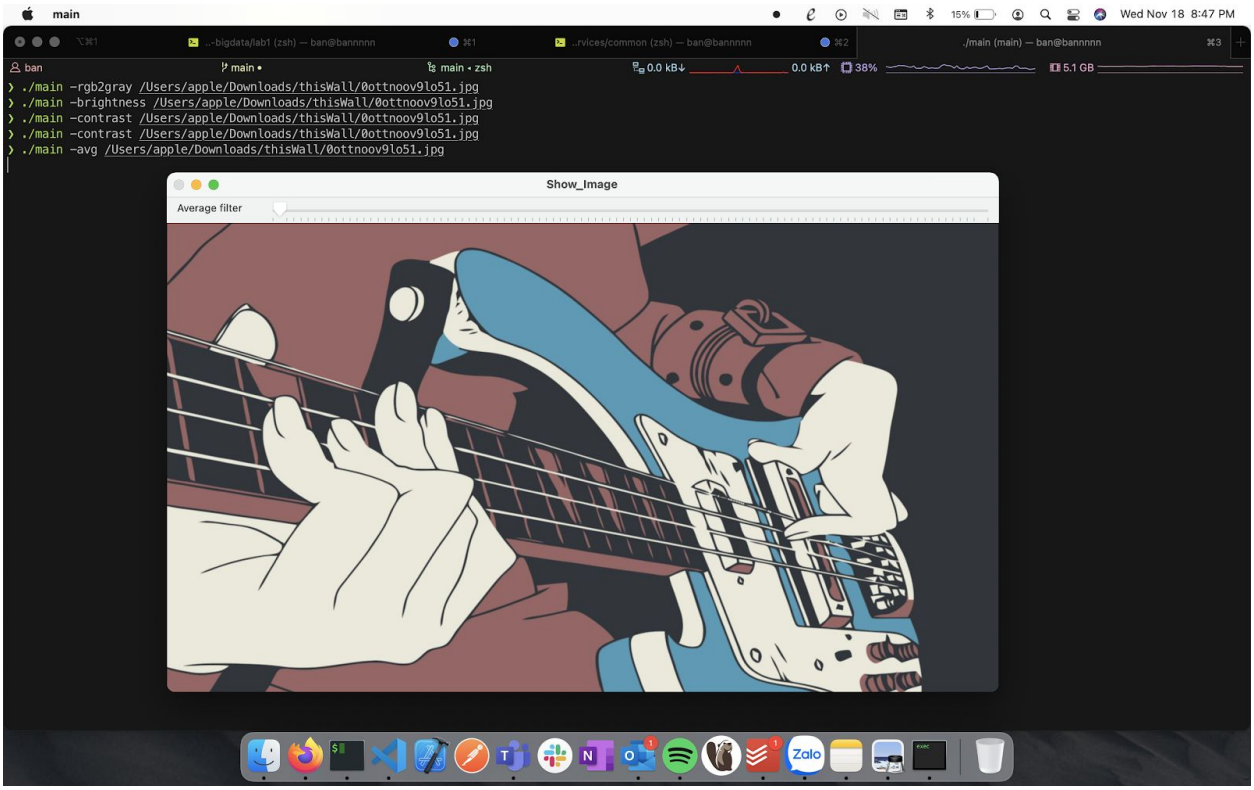
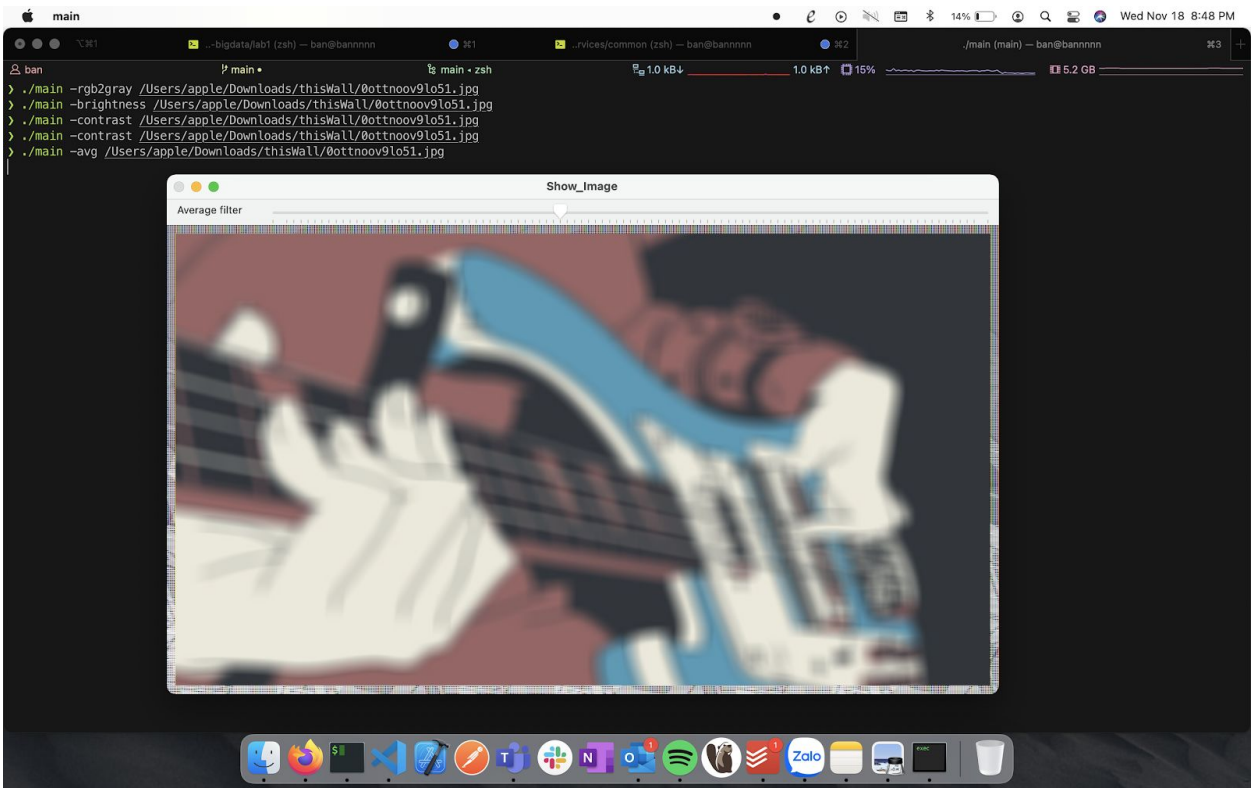


4. Filter image with average filter operator

    - Create kernel with each value is invert average of kernel square.
- Then do convolution operator between your image with the kernel
- Command: ./main -avg <FileDestinationn>





5. Filter image with Gaussian filter operator
    - Create kernel with each value is calculated with Gaussian operator
    - Chose sigma value equal 1.8
    - Then do convolution operator between your image with the kernel
    - Command: ./main -gauss <FileDestinationn>