ROBOT VISION LAB
LAB - 1

WORKING WITH IMAGES

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CSE4082 LAB (L29+L30)
Date: 25.07.2022
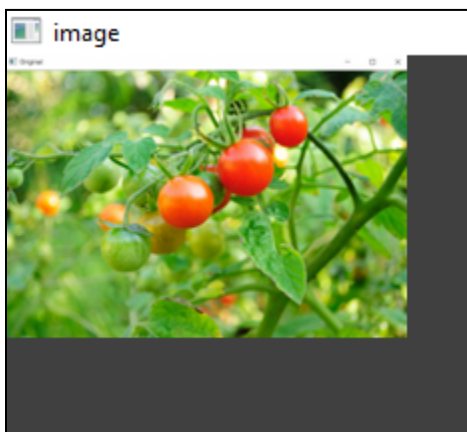Submitted to: Malathi G

OPENCV

TASK 1

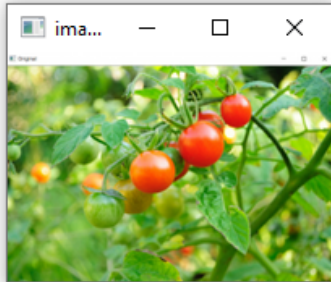Displaying image using OpenCV

<u>CODE</u>

```
import cv2
img = cv2.imread("C://Users//Admin//Desktop//fruit.png", cv2.IMREAD_COLOR)
cv2.imshow("image", img)
```

<u>OUTPUT</u>

```
>>> img = cv2.imread("C://Users//Admin//Desktop//fruit.png", cv2.IMREAD_COLOR)
>>> cv2.imshow("image", img)
>>>
```
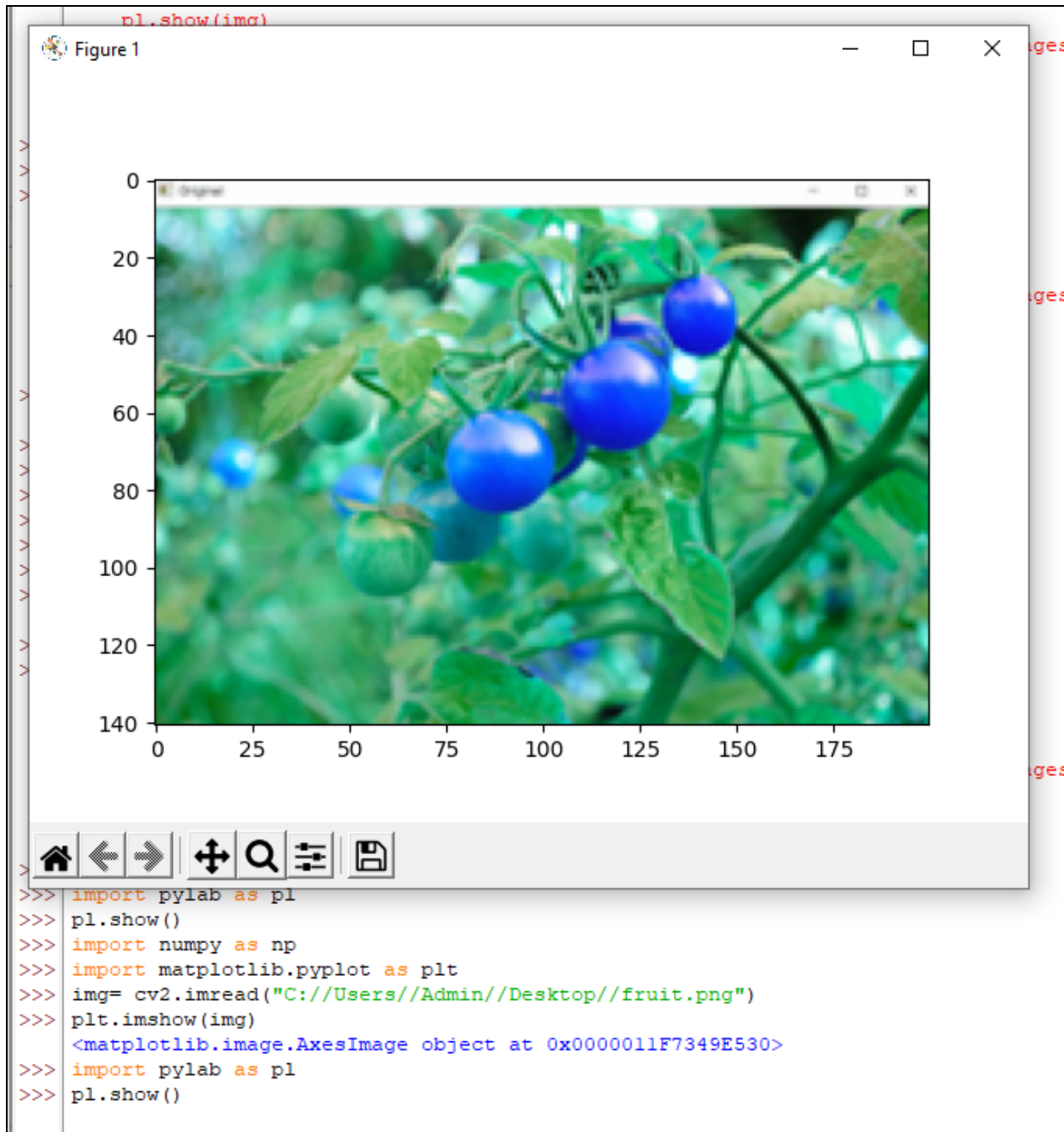

TASK 2

Reading an image using RGB color format using OpenCV

CODE

import numpy as np
import matplotlib.pyplot as plt
img= cv2.imread("C://Users//Admin//Desktop//fruit.png")
plt.imshow(img)
<matplotlib.image.AxesImage object at 0x0000011F7349E530>
import pylab as pl
pl.show()

OUTPUT

```
>>> import pylab as pl
>>> pl.show()
>>> import numpy as np
>>> import matplotlib.pyplot as plt
>>> img= cv2.imread("C://Users//Admin//Desktop//fruit.png")
>>> plt.imshow(img)
<matplotlib.image.AxesImage object at 0x0000011F7349E530>
>>> import pylab as pl
>>> pl.show()
```

MATLAB

TASK 1

Displaying Image

CODE

```
I = imread('pout.tif');
imshow(I)
```

OUTPUT

```
b1.m  ×  +
  I= imread('pout.png');
  imshow(I);
```
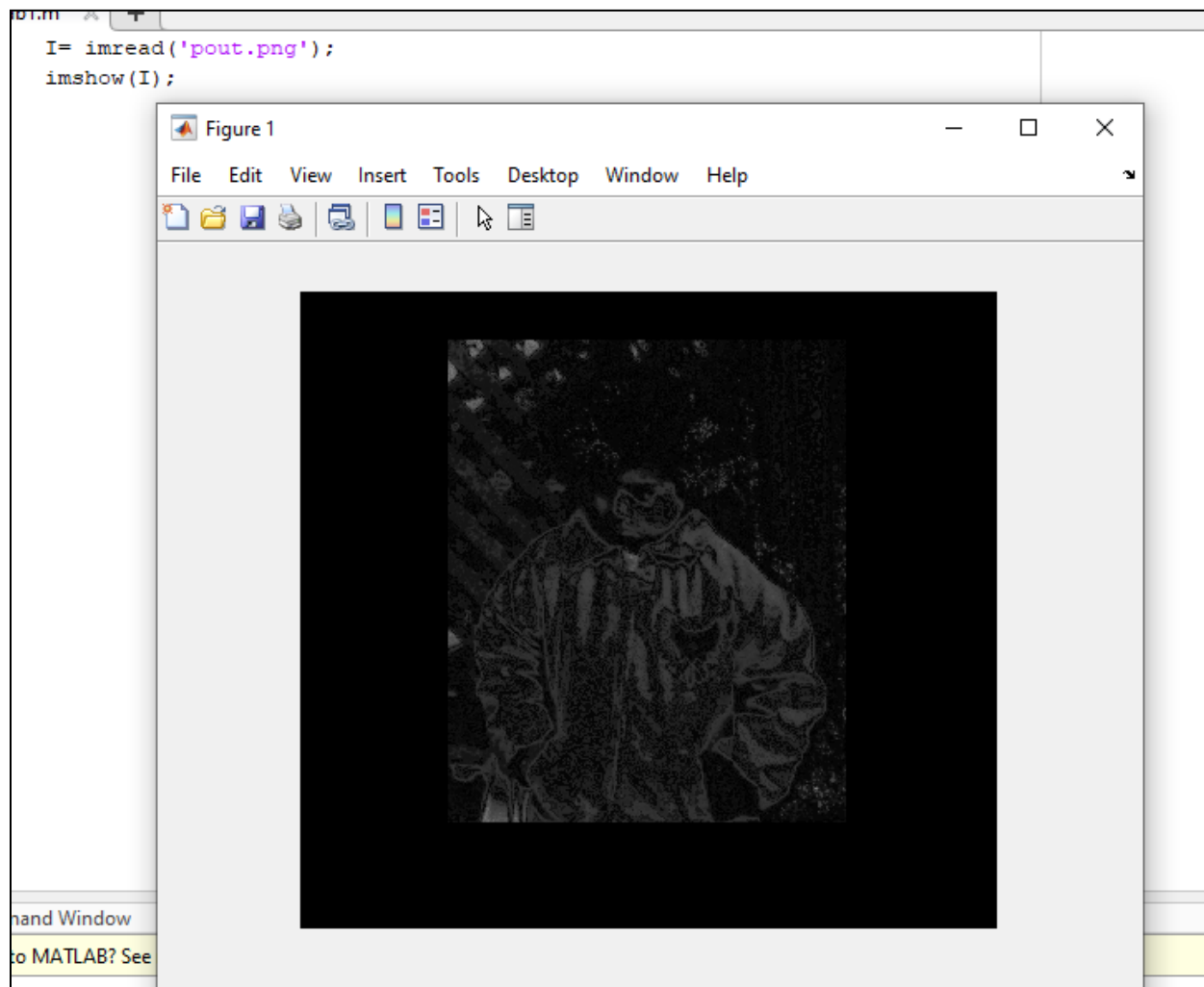

TASK 2

Appearance In workspace

CODE

```
I= imread('pout.png');
imshow();
whos I
figure
imhist(I)
```

OUTPUT

```
ab1.m   ×   +
    I= imread('pout.png');
    imshow(I);
    whos I
    figure
    imhist(I)
```
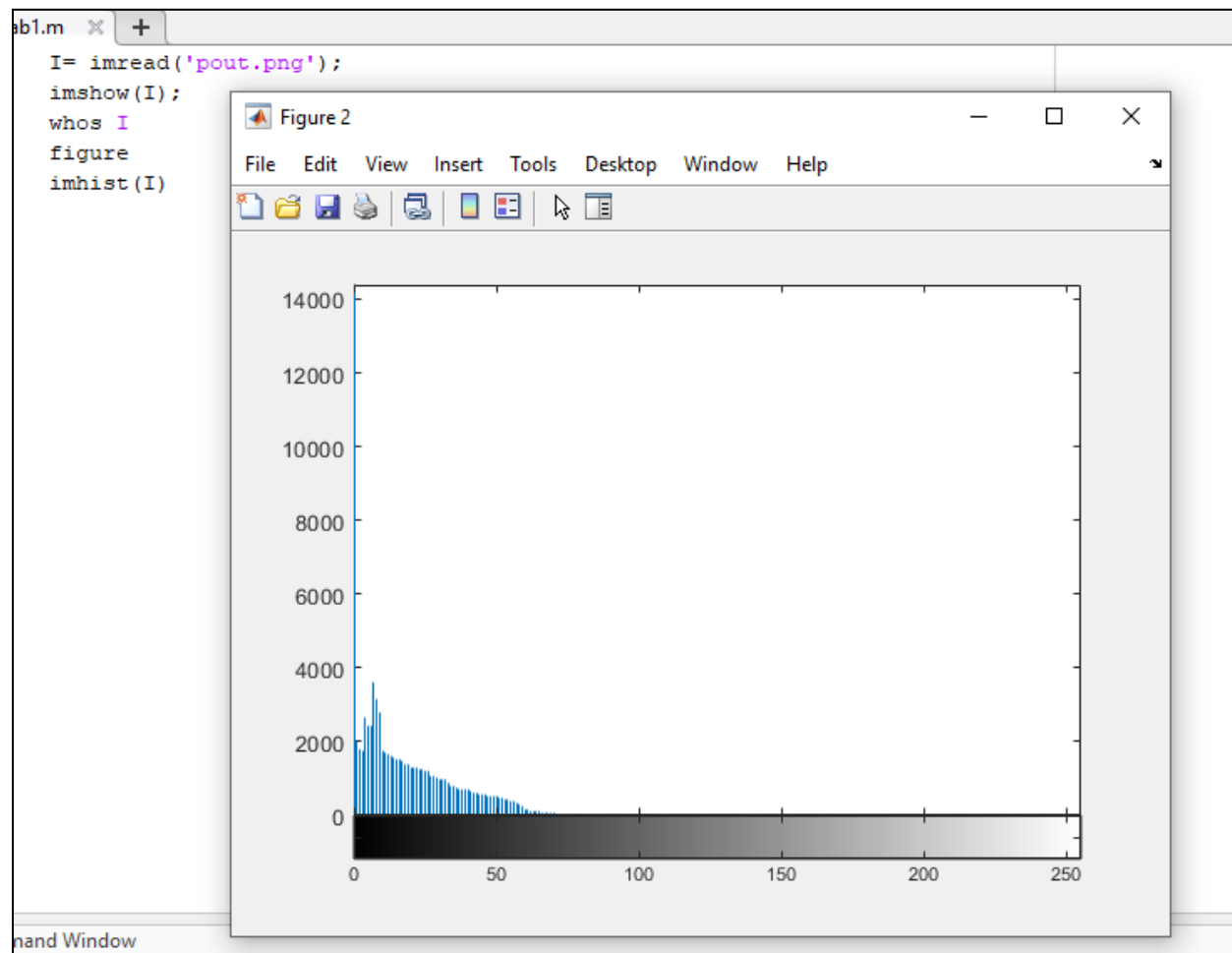

TASK 3

Improve Image contrast

CODE

```
I= imread('pout.png');
imshow(I);
whos I
Figure
Imhist (I)
I2= histeq2(I);
figure
imshow(I2)
```

OUTPUT

```
1.m  ×  +
  I= imread('pout.png');
  imshow(I);
  whos I
  figure
  imhist(I)
  I2 = histeq(I);
  figure
  imshow(I2)
```
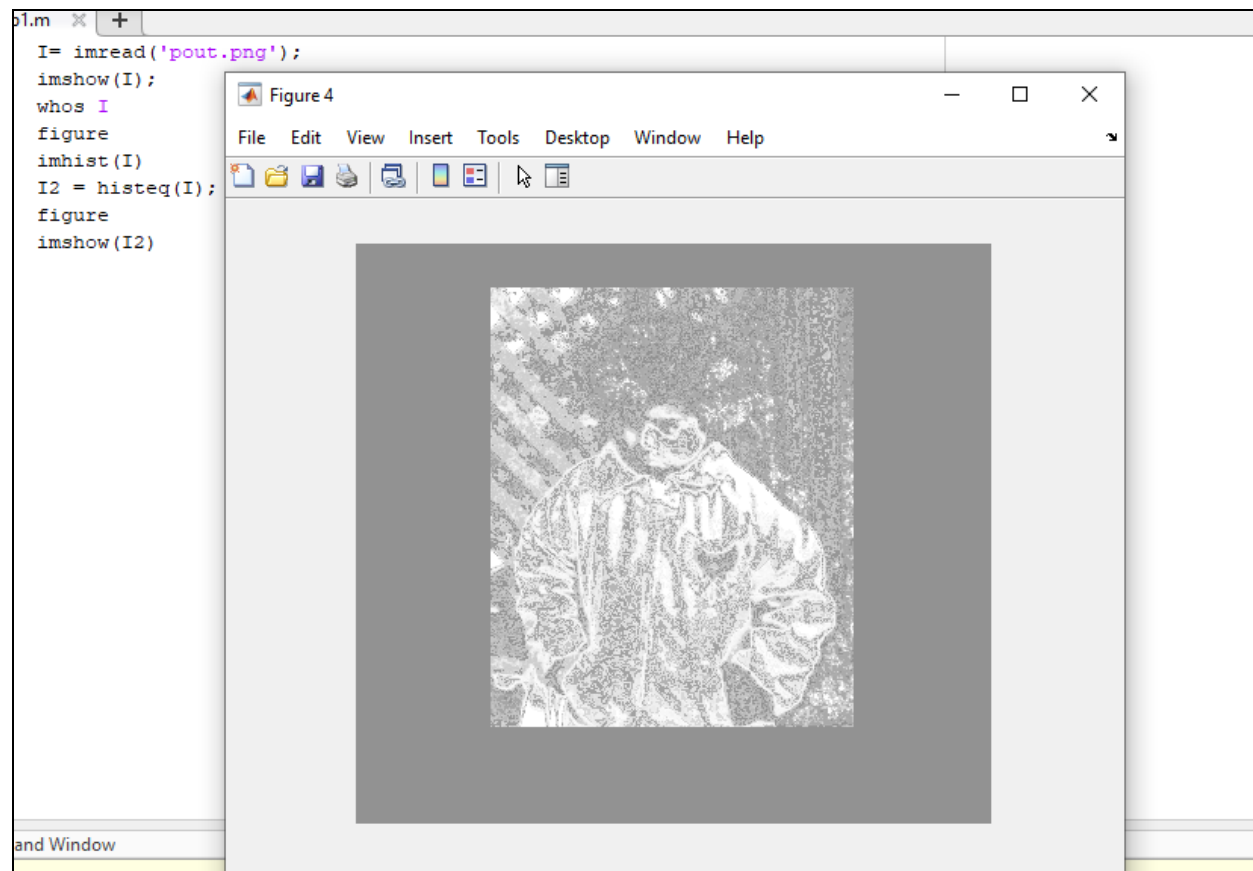
TASK 4

Write the Adjusted Image to a Disk File and checking the Contents of the Newly Written File

CODE

```
I= imread('pout.png');
imshow(I);
whos I
figure
imhist(I)
I2 = histeq(I);
figure
imshow(I2)
figure
imhist(I2)
imwrite (I2, 'pout2.png');
imfinfo('pout2.png');
```

OUTPUT

```matlab
 1 -     I= imread('pout.png');
 2 -     imshow(I);
 3 -     whos I
 4 -     figure
 5 -     imhist(I)
 6 -     I2 = histeq(I);
 7 -     figure
 8 -     imshow(I2)
 9 -     figure
10 -     imhist(I2)
11 -     imwrite (I2, 'pout2.png');
12 -     imfinfo('pout2.png');
```

Command Window

New to MATLAB? See resources for Getting Started.

```
>> lab1
>> lab1
  Name        Size              Bytes  Class    Attributes

   I         384x420          161280  uint8


>> lab1
  Name        Size              Bytes  Class    Attributes

   I         384x420          161280  uint8


>> lab1
  Name        Size              Bytes  Class    Attributes

   I         384x420          161280  uint8


>> lab1
  Name        Size              Bytes  Class    Attributes

   I         384x420          161280  uint8


>> lab1
  Name        Size              Bytes  Class    Attributes

   I         384x420          161280  uint8


>> lab1
  Name        Size              Bytes  Class    Attributes
```