Republic of the Philippines
CAVITE STATE UNIVERSITY
Don Severino delas Alas Campus
Indang, Cavite

ELECTIVE 3

Midterm Exam
Image Processing in Octave

Score

Submitted by:
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BSCpE 4-2

Date Submitted
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Submitted to:

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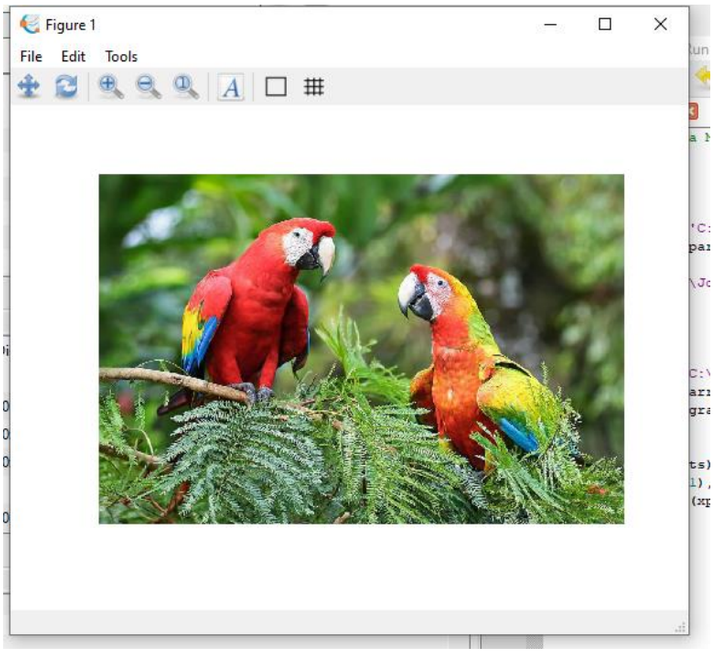
Methodology

I. Importing, Displaying, and Converting Images
   a. Using the Editor of Octave, create a program that will load and display parrots.jpg
   b. Examine the size of the parrots by typing whos to find out the size of the image that you have read in
   c. Convert the class uint8 color image parrots to a gray scale image, and display the full intensity range gray-scale image using the imshow command
   d. Covert the true color image to a gray-scale image
   e. Save the program to this format parrots.m

II. Display of Color Images
   a. Open the image file nature.jpg from the source folder
   b. Read in the file nature.jpg and display it on the screen as a reference image How large an image is created when we use the RGB representation compared to a gray-scale image conversion of it?
   c. Assign an image color that intensifies red, green, and blue and display each image in one window
   d. Convert each image file extension to png
   e. Save the program as nature.jpg

Note: Take a screen shot of the output display of the converted images and do not forget to write your Octave code to this manuscript

Screen shot of Output Image



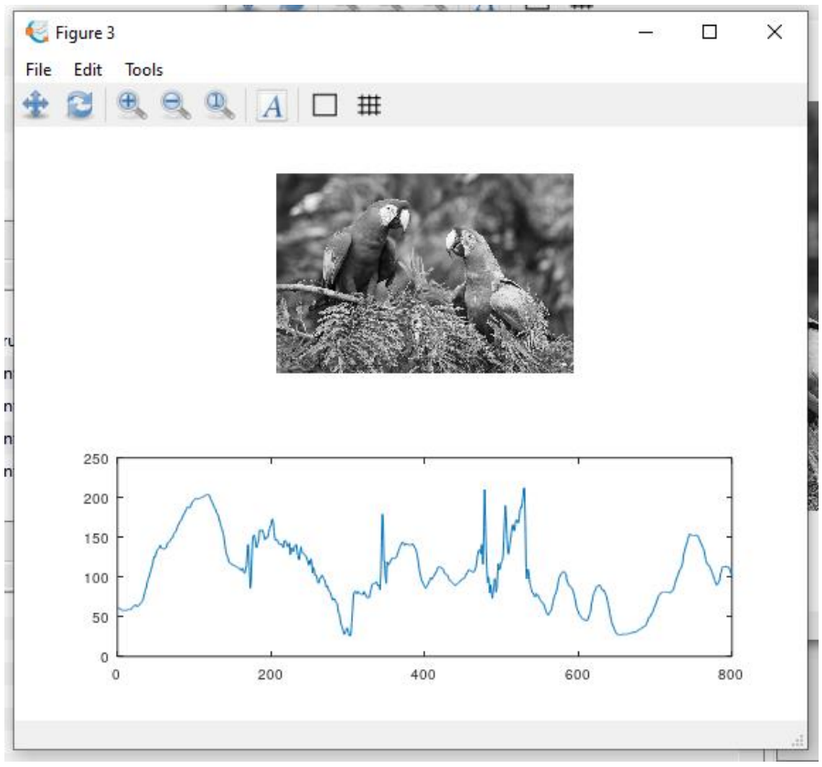


Figure 3
File Edit Tools
250
200
150
100
50
0
0
200
400
600
800

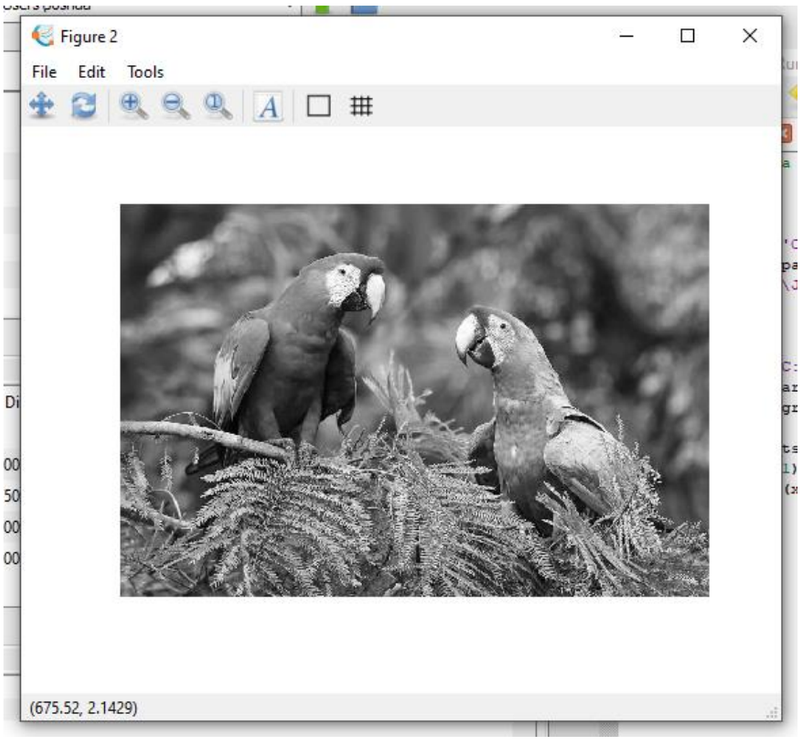


Figure 2
File Edit Tools
(675.52, 2.1429)

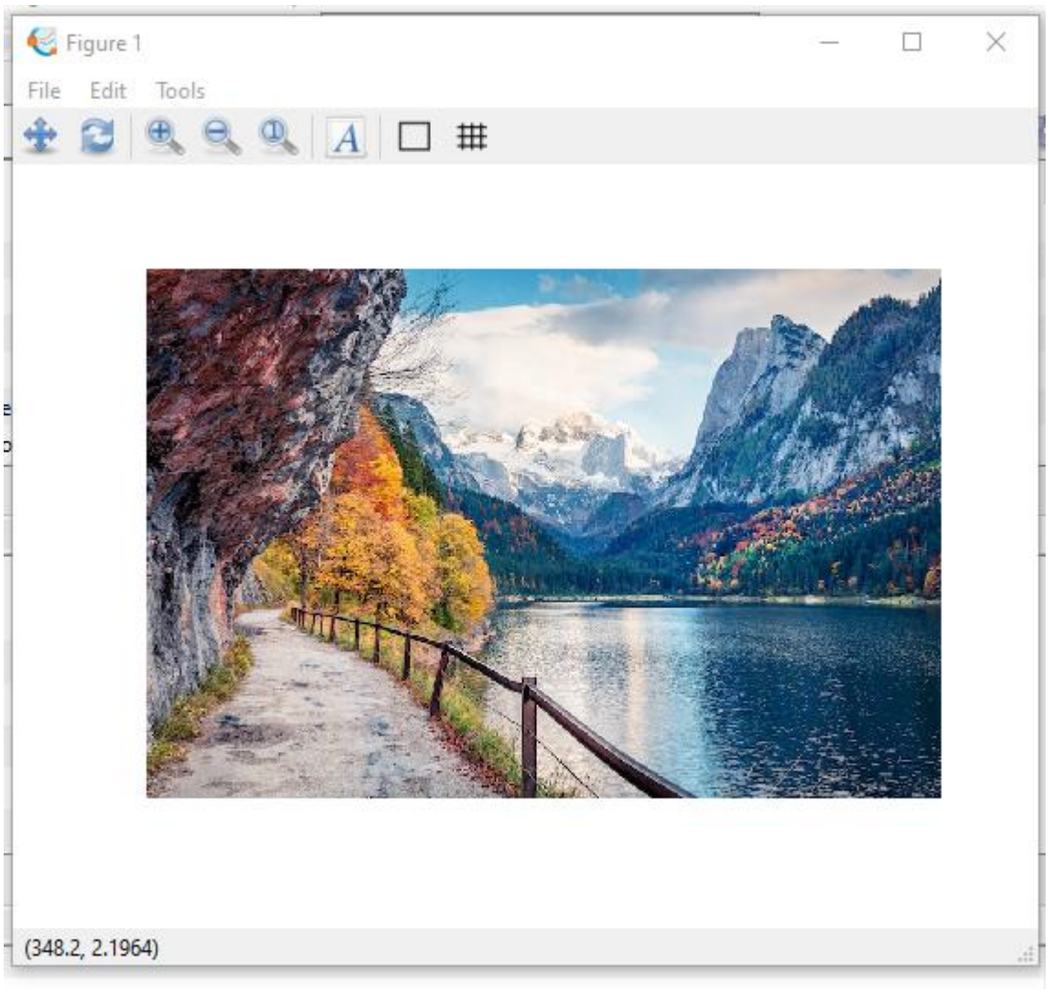
Source Codes:

```
#Macalinao, Joshua M.
#BSCPE 4-2
#CPEN 111

#a
parrots = imread('C:\Users\Joshua\parrots.jpg');
figure(1),imshow(parrots);
#b
imfinfo 'C:\Users\Joshua\parrots.jpg'
whos parrots
pkg load image;

#d
imwrite(parrots,'C:\Users\Joshua\parrots.jpg');
gray = rgb2gray(parrots);
figure(2),imshow(gray);

#c
xp=rgb2gray(parrots);
figure;subplot(211),imshow(xp);
subplot(212),plot(xp(150,:));
```



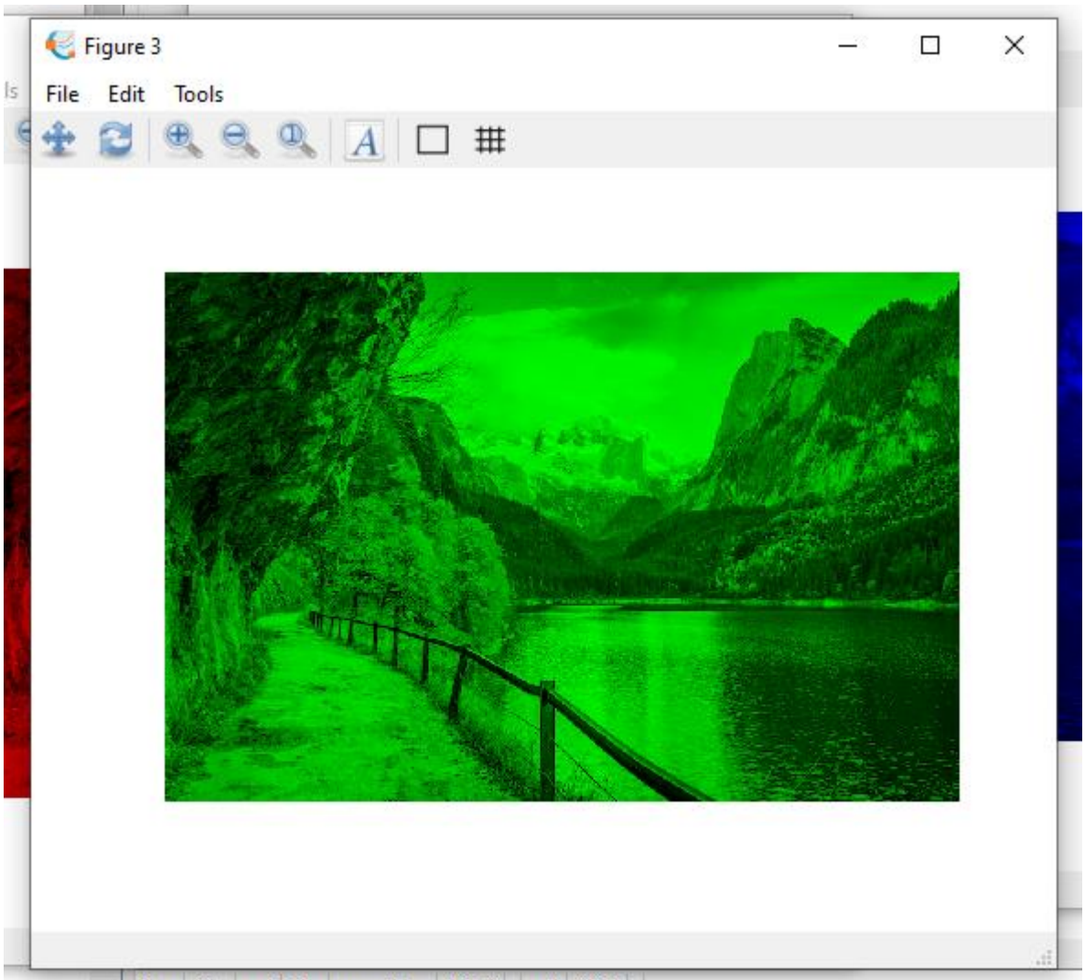


Figure 3
File Edit Tools

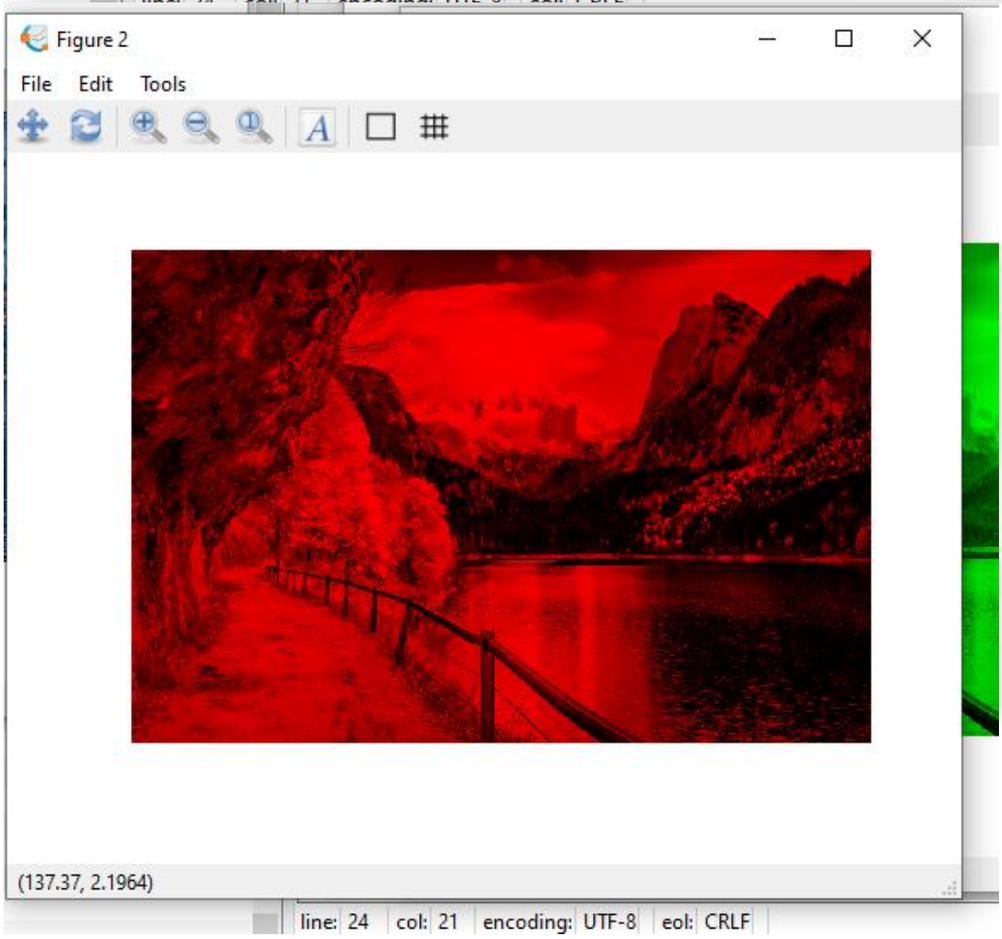
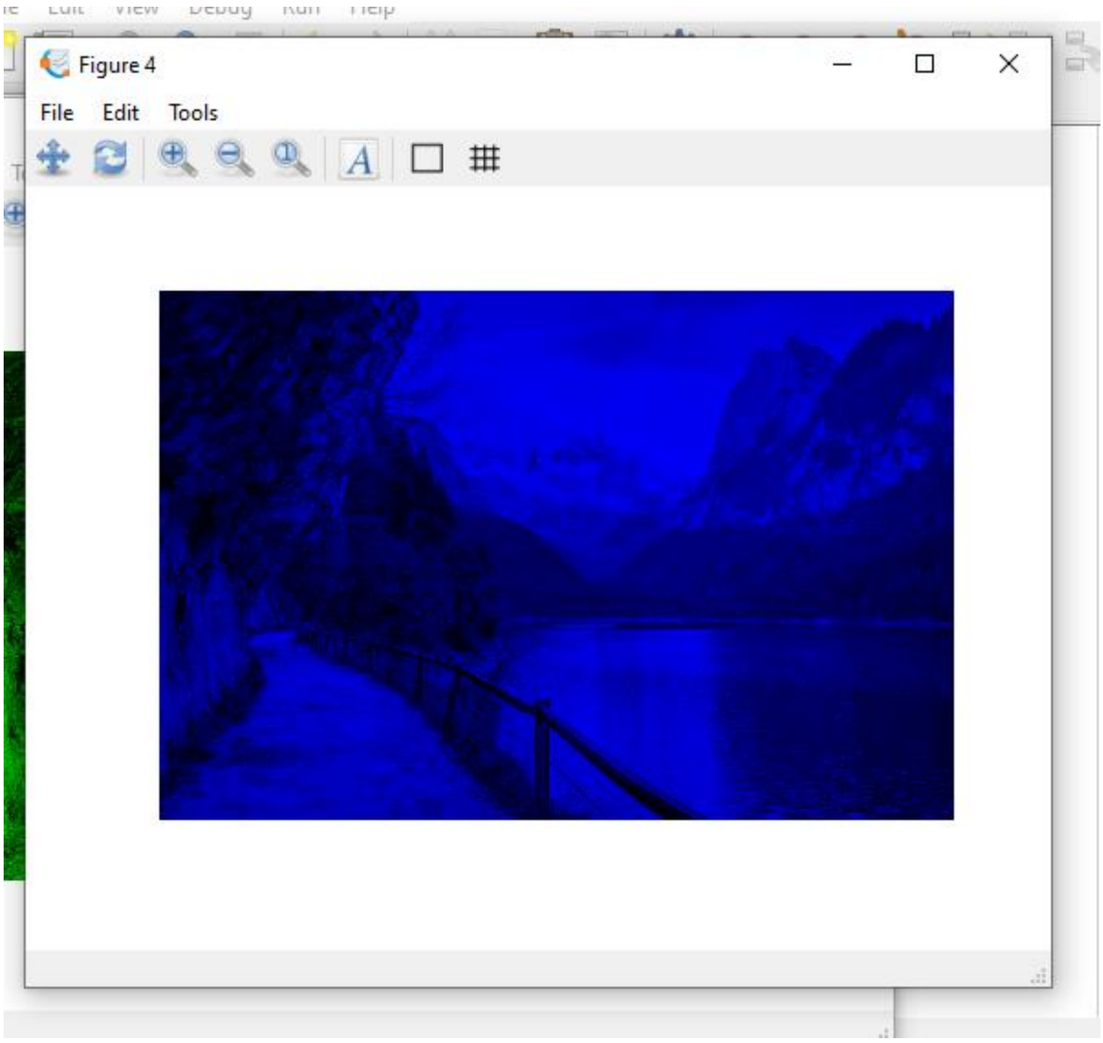


Figure 2
File Edit Tools
(137.37, 2.1964)
line: 24 col: 21 encoding: UTF-8 eol: CRLF



Source code

```
#Macalinao, Joshua M.
#BSCPE 4-2
#CPEN 111

nature = imread('C:\Users\Joshua\nature.jpg');
figure(1),imshow(nature);
imfinfo 'C:\Users\Joshua\nature.jpg'
whos nature;
pkg load image;

figure, imshow(nature);

gray_nature = rgb2gray(nature);

whos gray_nature;

red_img = nature;
red_img (:,:,2)=0;
red_img (:,:,3)=0;
figure(2), imshow(red_img)

green_img = nature;
green_img (:,:,1)=0;
green_img (:,:,3)=0;
figure(3), imshow(green_img)

blue_img = nature;
blue_img (:,:,1)=0;
```

```
blue_img (:,:,2)=0;
figure(4), imshow(blue_img)

imwrite(red_img, 'C:/Users/Joshua/red_nature.png');
imwrite(green_img, 'C:/Users/Joshua/green_nature.png');
imwrite(blue_img, 'C:/Users/Joshua/blue_nature.png');
```

The codes used in the all demonstrate how images can be modified and changed, from viewing the image's information to changing its values. The rgb file is displayed using the imshow command, edited using imread and changed using imwrite; in addition, the color is changed using the rgb2gray command and the values are displayed using a graph made with figure.

Conclusion

The conclusion expresses the summary of the midterm exam as perceived by the examinee

Rubrics in Grading the Midterm Exam

	A – Excellent	B – Good	C – Fair	D – Needs Improvement
Specifications	The Program works and meets all of the specifications	The program works and produces the correct results and displays them correctly. It also meets the most of the other specifications	The program produces correct results but does not display them correctly	The program is producing incorrect results
Readability	The code is exceptionally well organized and very easy to follow	The code is fairly easy to read	The code is readable only by someone who knows what it is supposed to be doing	The code is poorly organized and very difficult to read.
Reusability	The code could be reused as a whole or each routine could be reused	Most of the code could be reused in other programs	Some parts of the code could be reused in other programs	The code is not organized for reusability
Documentation	The documentation is well written and clearly explains what the code is accomplishing and how	The documentation consists of embedded comment and some simple header documentation that is somewhat useful	The documentation is simply comments embedded in the code with some simple header comments separating routines	The documentation is simply comments embedded in the code and does not help the reader understand the codes
Efficiency	The code is extremely efficient without sacrificing readability and understanding.	The code is fairly efficient without sacrificing readability and understanding	The code is brute force and unnecessarily long	The code is huge and appears to be patched together
TOTAL				