University of the Punjab

Gujranwala Campus

Department of Information Technology

Computer Vision

Assignment

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Section: BSIT (Morning)

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Submitted to:

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EXERCISE:

Identify which intensity transformation was used on liftingbody.png to create each of the four results below. Write a script to reproduce the results using the intensity transformation functions.

```
function intensityTransformations()
    % Read the original image
    originalImage = imread('tree.jpeg');

    % Ensure the image is grayscale
    if ndims(originalImage) == 3
        originalImage = rgb2gray(originalImage);
    end

    % Apply transformations
    % 1. Darkened image (Result 1)
    result1 = imadjust(originalImage, [], [], 0.5); % Gamma correction with gamma < 1

    % 2. Brightened image (Result 2)
    result2 = imadjust(originalImage, [], [], 1.5); % Gamma correction with gamma > 1

    % 3. High contrast image (Result 3)
    result3 = histeq(originalImage); % Histogram equalization

    % 4. Low contrast image (Result 4)
    result4 = imadjust(originalImage, [0.3 0.7], [0.4 0.6]); % Adjust intensity range

    % Display results
    figure;
    subplot(2, 3, 1);
    imshow(originalImage);
    title('Original Image');

    subplot(2, 3, 2);
    imshow(result1);
    title('Result 1: Darkened');

    subplot(2, 3, 3);
    imshow(result2);
    title('Result 2: Brightened');

    subplot(2, 3, 4);
```

```
    imshow(result3);
    title('Result 3: High Contrast');

    subplot(2, 3, 5);
    imshow(result4);
    title('Result 4: Low Contrast');
End
```

MATLAB SCREENSHOT:

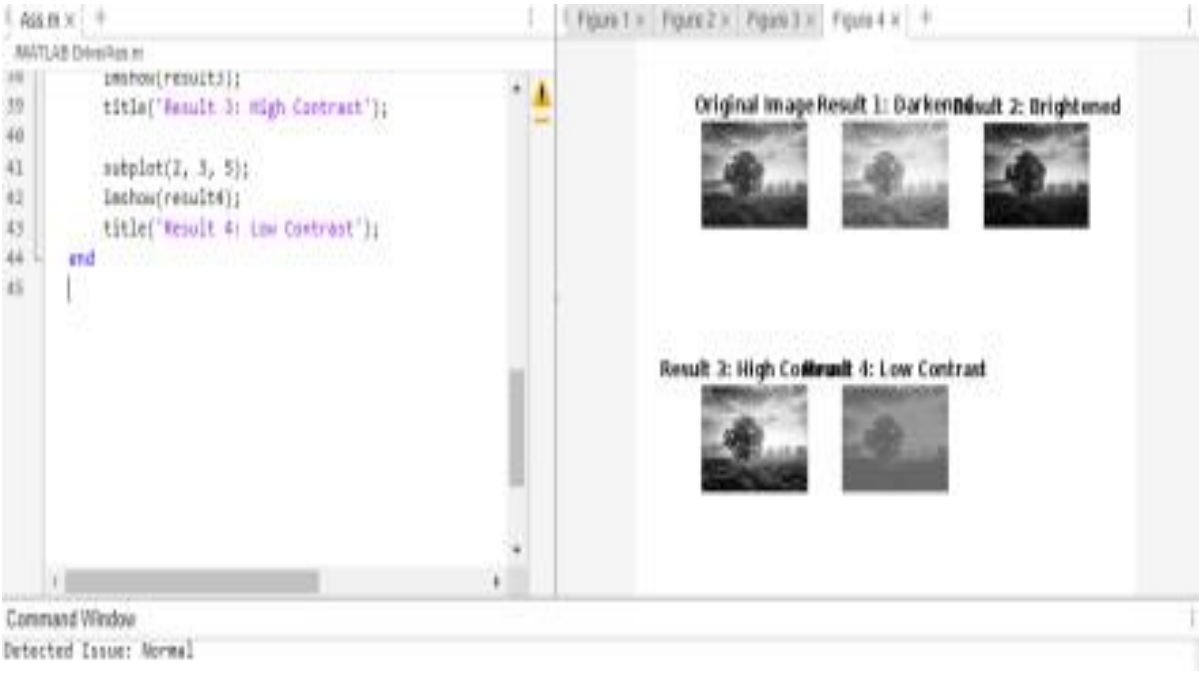

Figure # 1