

~/Downloads/lab5_1.m

```
1 % Read the grayscale image
2 image = imread('rgb.jpeg');
3
4 % Convert to grayscale if it's an RGB image
5 if size(image, 3) == 3
6     image = rgb2gray(image);
7 end
8
9 figure;
10 subplot(2,1,1);
11 imshow(image);
12 title('Original Image');
13
14 [rows, cols] = size(image);
15
16 histogram = zeros(1, 256);
17
18
19 for i = 1:rows
20     for j = 1:cols
21         pixel_value = image(i, j); % Get the pixel intensity
22         histogram(pixel_value + 1) = histogram(pixel_value + 1) + 1; % Increment
the count
23     end
24 end
25
26 % Plot the histogram
27 subplot(2,1,2);
28 bar(0:255, histogram, 'b');
29 title('Histogram of Grayscale Image');
30 xlabel('Pixel Intensity');
31 ylabel('Frequency');
32 xlim([0 255]);
33
```