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% Step 1: Read and convert image to grayscale
input_image = imread('http://1.bp.blogspot.com/-dX26U90Vlyc/UG6zQT_1dHI/
AAAAAAAAAv0/7nmRCHoab0g/s1600/Parrot+wallpaper+2012+01.jpg');
gray_image = rgb2gray(input_image);

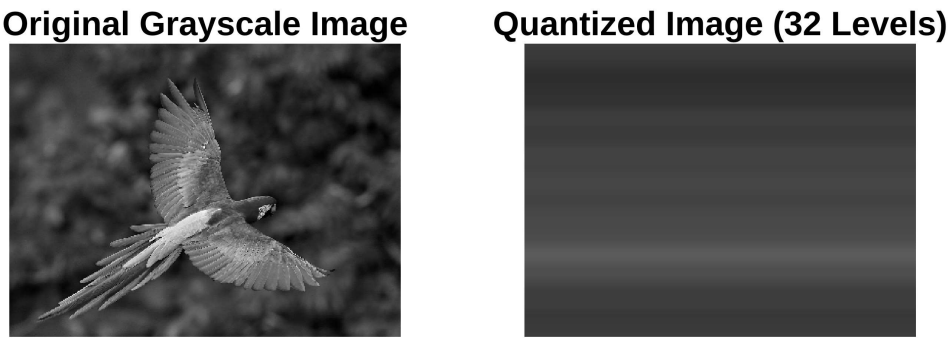
% Step 2: Normalize the image to the range [0, 1]
normalized_image = double(gray_image) / 255;

% Step 3: Quantize the grayscale image to 32 levels using imresize
levels = 32;
resized_image = imresize(normalized_image, [levels, 1]);

% Step 4: Resize it back to the original number of pixels
quantized_image = imresize(resized_image, size(gray_image));

% Step 5: Scale back to [0, 255] range for display
final_quantized_image = uint8(quantized_image * 255);

% Step 6: Display the original and quantized images
figure;
subplot(1, 2, 1), imshow(gray_image), title('Original Grayscale Image');
subplot(1, 2, 2), imshow(final_quantized_image), title('Quantized Image (32
Levels)');
```



Steps followed in the Process :

1. Read Image: First, we read the input image , and if needed, we use rgb2gray to convert it to grayscale.
2. Normalize: By dividing each pixel value by 255, the grayscale image is normalized to a range between 0 and 1.
3. Quantization By using the imresize function, the grayscale levels are mapped to a mere 32 levels. The image's pixel values are resized to 32 rows.
4. Restore Image Size: The image is returned to its original size using the imresize function, which preserves the reduced levels, after the intensity levels have been lowered.
5. Display: For comparison, the 32-level quantized image and the original grayscale image are both shown.