

```
% Load the image
img = imread('img.jpg');

% Check if the image is RGB or grayscale
if size(img, 3) == 3 % RGB image
    gray_img = im2double(rgb2gray(img)); % Convert to grayscale and double format
else % Grayscale image
    gray_img = im2double(img); % Convert to double format directly
end

% Step 1: Quantize to 32 grayscale levels
levels = 32; % Number of grayscale levels
quantized_img = round(gray_img * (levels - 1)) / (levels - 1); % Quantization process

% Step 2: Display the original and quantized images side by side for comparison
figure;
imshow(img)
title("Original Image")
```

Original Image



```
imshow(gray_img);  
title('Original Grayscale Image');
```

Original Grayscale Image



```
imshow(quantized_img);  
title('Quantized Image (32 Grayscale Levels)');
```

Quantized Image (32 Grayscale Levels)

