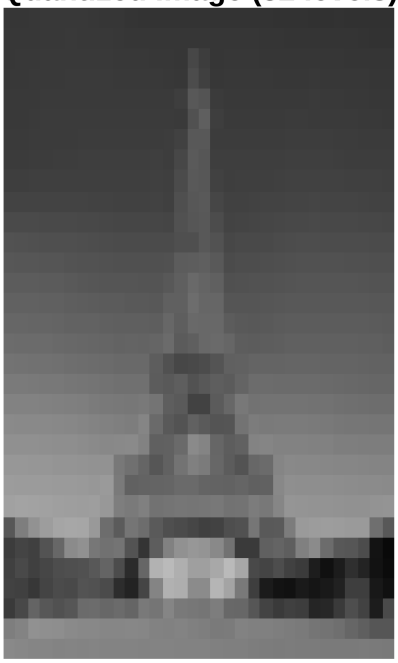
```
img = imread('https://encrypted-tbn0.gstatic.com/images?
q=tbn:ANd9GcSmV1CLeKoYJNgeIv9xpPmc7aOxgjwnMioXIQ&s');

% Convert to grayscale if it's a color image
if size(img, 3) == 3
    img = rgb2gray(img);
end

% Convert to double precision and normalize to [0, 1]
img = im2double(img);

% Get image dimensions
[M, N] = size(img);

% Step 1: Downscale the image to 32x32
small = imresize(img, [32, 32]);

% Step 2: Upscale the image back to original size
quantized = imresize(small, [M, N], 'nearest');

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

subplot(1,2,2);
imshow(quantized);
title('Quantized Image (32 levels)');
```

Original Image

Quantized Image (32 levels)



```
% Optional: Display the difference
figure;
imshow(abs(img - quantized));
title('Difference between Original and Quantized');
```

Difference between Original and Quantized