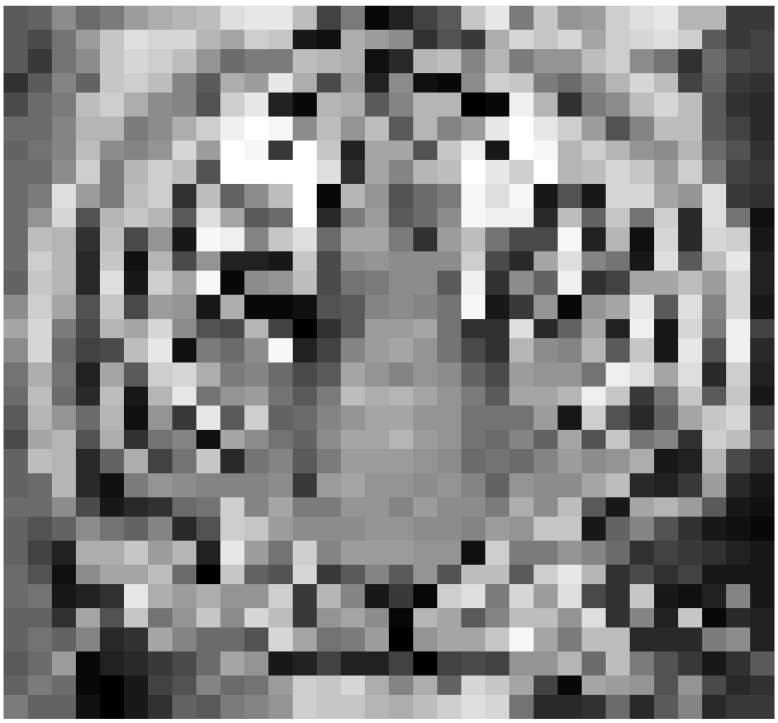
```
img = imread('tiger.jpeg');
grayImg = rgb2gray(img);
normalizedImg = double(grayImg) / 255;
quantizedImg = round(normalizedImg * 31);
resizedImg = imresize(quantizedImg, [32 32], 'nearest');
finalQuantizedImg = imresize(resizedImg, size(grayImg), 'nearest');
imshow(finalQuantizedImg, []);
```



```
imwrite(finalQuantizedImg, 'quantized_image.png');


%{
Steps to Quantize an Image to 32 Grayscale Levels
Step1 : Use imread to load the original image.
Step2 : Use rgb2gray to convert a color image
        to a grayscale version. Making sure we are using
        a single channel is ensured by this step.
Step3 : By converting the grayscale image to a double
        type and dividing by 255, you can normalize the pixel
        values to fall between [0, 1].
Step4 : To obtain the integer values that reflect the quantized
        levels, multiply the normalized image by 31 (which covers levels 0
to 31).
        Then, round the result.
Step5 : To reduce the quantized image's size to 32 by 32 pixels,
```

```
        use imresize. This aids in condensing the 32 grayscale
        levels into a more manageable illustration.
Step6 : Resize the downsampled image with imresize to its
        original dimensions, if desired. This returns the image to
        its original size while preserving the quantization.
Step7 : Use imshow to display the final quantized image, allowing
        you to visualize the effects of the quantization process.
Step8 : Optionally, save the resulting quantized image using imwrite
        to store it as a new file.
%}
```