```
% Step 1: Read the original image
imagePath = 'tiger.jpeg';
originalImage = imread(imagePath);

% Step 2: Convert the image to grayscale if it is in RGB
if size(originalImage, 3) == 3
    grayImage = rgb2gray(originalImage);
else
    grayImage = originalImage;
end

% Step 3: Normalize the grayscale values (0-1 range)
normalizedImage = double(grayImage) / 255;

% Step 4: Create a new image with 32 levels using imresize
% We can create a 32x1 image to represent 32 levels
levels = 32;
quantizedImage = imresize(normalizedImage, [levels, 1]);

% To replicate this across the width of the original image:
quantizedImage = imresize(quantizedImage, size(grayImage));

% Step 5: Scale back to 0-255 range
quantizedImage = uint8(quantizedImage * 255);

% Step 6: Show the images
figure;
subplot(1, 2, 1);
imshow(grayImage);
title('Original Grayscale Image');

subplot(1, 2, 2);
imshow(quantizedImage);
title('Quantized Image (32 Levels)');
```

Original Grayscale Image

Quantized Image (32 Levels)