```matlab
%% Median filter
% original image
my_img=imread('Lena_Monochrome.jpg');
subplot(1,4,1); imshow(my_img); title('My Original Image');

% salt & pepper

%ig=rgb2gray(my_img);
noised_Img = imnoise(my_img,'salt & pepper');
subplot(1,4,2); imshow(noised_Img); title('Noisy Image');

% median filtering
img_med_2=median_filter(noised_Img);

subplot(1,4,3); imshow(img_med_2); title('Median Filtered Image');

%Calculating the metrics
psnr(img_med_2,my_img)
ssim(img_med_2,my_img)

function gr = median_filter(image)

    gr = image;

    Lint = 1;
    Pint = 1;

    % Lines
    for l = Lint+1 : size(image,1)-Lint

        % Pixels
        for p = Pint+1 : size(image,2)-Pint

            % Extract of sub-image (window)
            window = image(l-Lint : l+Lint, p-Pint : p+Pint); % It will create a ↙
subimage of size (3x3) for the image located at (l,p).
            [n1,n2] = size(window);
            vector = zeros(n1*n2);
            i = 1;
            for j = 1 : n1
                for k = 1 : n2
                    vector(i) = window(j,k);
                    i = i + 1;
                end
            end
            sorted = sort(vector);

            % convolution between sub-image and mask
            gr(l,p) = sorted(fix(length(sorted)/2) + 1); % We are trying to take the ↙
```

```matlab
median value of the neighbouring pixels intensity.
        end
    end
end
```