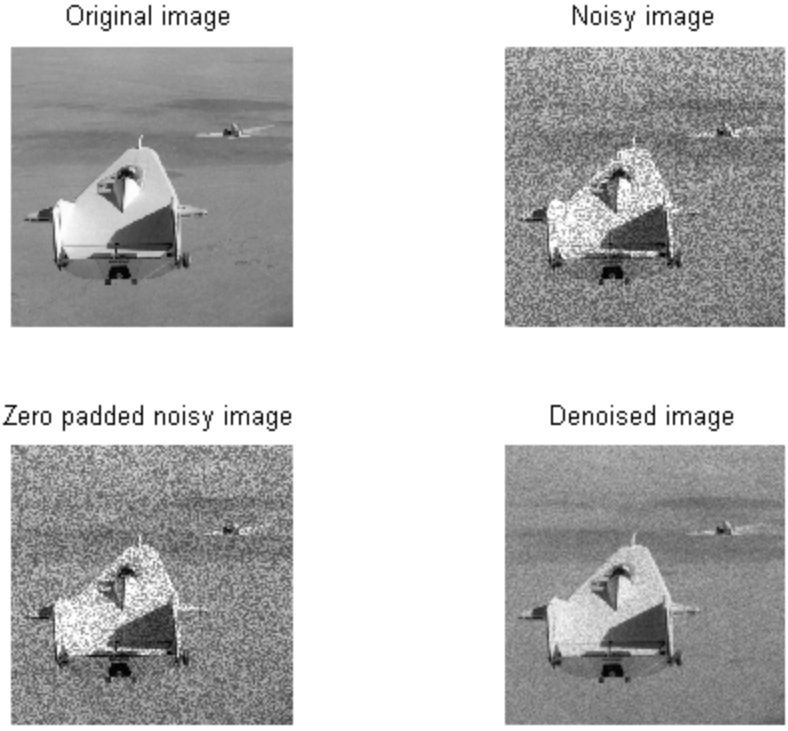
```
clc;
clear all;
close all;

% Load image
imgFile = 'liftingbody.png';
img = imread(imgFile);
yres = size(img, 1);
xres = size(img, 2);
subplot(2, 2, 1);
imshow(img);
title('Original image');

% Introduce noise
imgNs = imnoise(img, 'speckle');
subplot(2, 2, 2);
imshow(imgNs);
title('Noisy image');

% Zero padding
imgZp = uint8(zeros(yres+2, xres+2));
imgZp(2:(yres+1), 2:(xres+1)) = imgNs;
subplot(2, 2, 3);
imshow(imgZp);
title('Zero padded noisy image');

% Denoise
imgDns = uint8(zeros(yres, xres));
for y = 2 : (yres+1)
    for x = 2 : (xres+1)
        window = imgZp((y-1):(y+1), (x-1):(x+1));
        val = mean(mean(window));
        imgDns(y-1, x-1) = val;
    end
end
subplot(2, 2, 4);
imshow(imgDns);
title('Denoised image');

% PSNR
fprintf(1, 'PSNR(Noised) = %f\n', img_Psnr(img, imgNs));
fprintf(1, 'PSNR(Denoised) = %f\n', img_Psnr(img, imgDns));
```

```
PSNR(Noised) = 18.212323
PSNR(Denoised) = 26.472256
```



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