﻿#load image

pkg load image

#task one

function R = AverageWithTh(x, Th)

[r, c] = size(x);

n = r\*c;

r = floor((r+1)/2); c = floor((c+1/2));

s = sum(x(:))/n;

if (abs(x(r,c) - s))> Th

R = s;

else

R = x(r,c);

endif

endfunction

[IMAGE, map] = imread('./Parrot.bmp');

gray\_image = ind2gray(IMAGE, map);

noicy\_image = imnoise(gray\_image,"salt & pepper");

med\_image = medfilt2(noicy\_image);

nel = nlfilter(double(gray\_image), [3 3], @AverageWithTh, 0.2);

subplot(2,2,1), imshow(gray\_image);

subplot(2,2,2), imshow(noicy\_image);

subplot(2,2,3), imshow(med\_image);

subplot(2,2,4), imshow(nel);

#task 2. Processing gray\_iage

res1 = filter2([1 1 -1; 1 -2 -1; 1 1 -1], gray\_image);

figure; imshow(res1);

res2 = filter2([1 1 1; 1 -2 -1; 1 -1 -1], gray\_image);

figure; imshow(res2);

