
homework2 solution

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q1

```
im1 = [zeros(128,128), 128*ones(128,128); 255*ones(128,256)];  
im2 = [255*ones(128,256); zeros(128,128), 128*ones(128,128)];  
im3 = [255*ones(256, 128),[zeros(128,128); 128*ones(128,128)]];  
im4 = [[zeros(128,128); 128*ones(128,128)], 255*ones(256, 128)];  
% No, suppose the pixel in the centre of image and taking im1 for  
% example, after averaging filter, it will contribute to new intensity  
% which is not any of 0,128,255. So there will be a new histogram
```

q2

$f(D) = 2D - 150$, largest intensity map to 0 is 75. smallest intensity map to 255 is 202.5

q3

the solution to q3 should be integral of $2n+1$ from 0 to 100 divide from 0 to 255, the value is $0.155*255 = 39.5$

q4

I can see some birds in some blocks differ: local is equalization by $80*80$ block while global is equalized by whole image

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