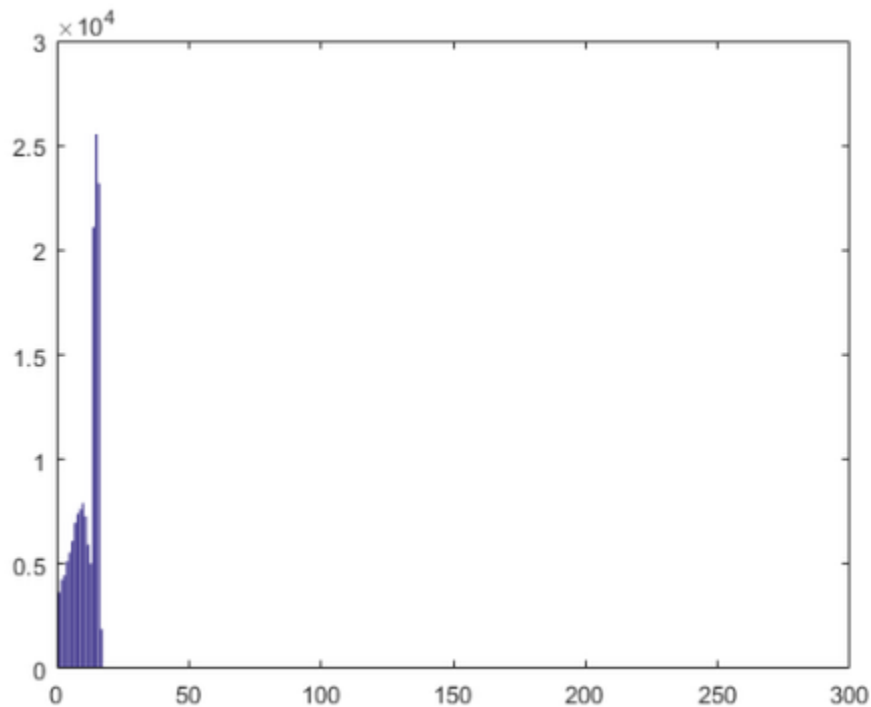

David Williams i Arnau Badia

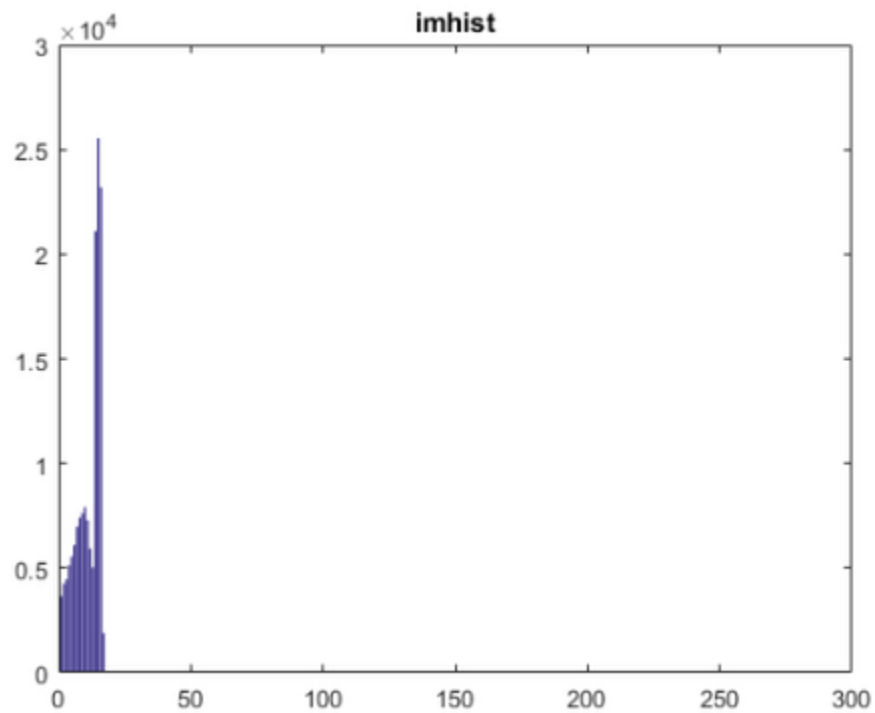
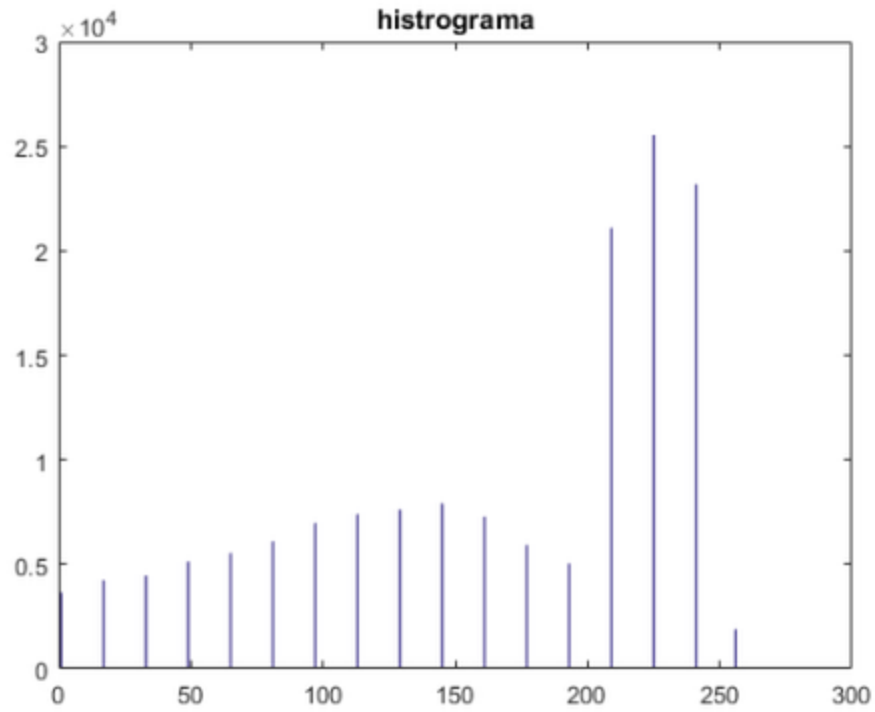
Table of Contents

histogrames	1
imatge negada	2
operacions aritmetiques	3
Suavitzat	5

histogrames

```
im=imread('I:\vc\sample images\Que_es.png');  
h = histograma(im);  
%histograma  
figure, bar(h);  
minval = min(min(im));  
maxval = max(max(im));  
im2 = (im-minval)*(255/(maxval-minval));  
h2=imhist(im2);  
%histograma equalitzat  
figure, bar(h2), title('histograma');  
%histograma amb imhist  
h3 = imhist(im);  
figure,bar(h3), title('imhist');
```





imatge negada

```
neg = 255 - im;
```

```
figure,imshow(neg),title('negada');

neg2 = imcomplement(im2);
figure, imshow(neg2), title('equalitzada negada');
```



operacions aritmetiques

```
im1 = imread('I:\vc\sample images\toycars1.png');
im2 = imread('I:\vc\sample images\toycars2.png');
im3 = imread('I:\vc\sample images\toycars3.png');
figure, subplot(1,3,1),imshow(im1)
subplot(1,3,2), imshow(im2)
subplot(1,3,3), imshow(im3)

figure, subplot(1,2,1),imshow(im1-im2), title('im1 - im2')
subplot(1,2,2), imshow(im2-im3), title('im2 - im3')

%imatge diferencia absoluta
figure, imshow(imabsdiff(im1,im2)), title('diferencies de valor
absolut')

% fet de forma manual
figure, imshow(abs(im1-im2)+abs(im2-im1))
```



im1 - im2



im2 - im3



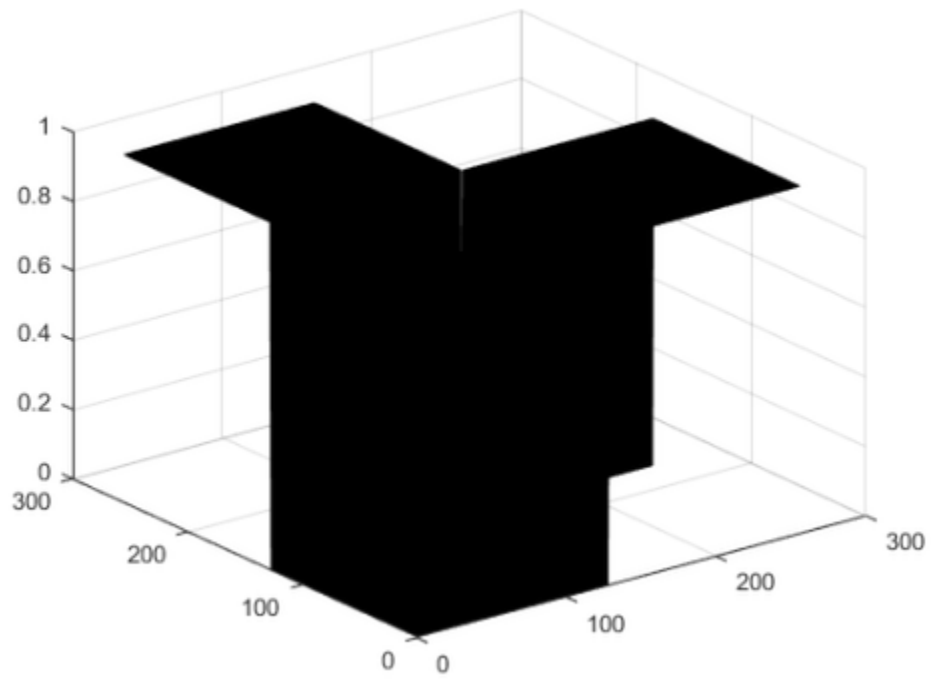
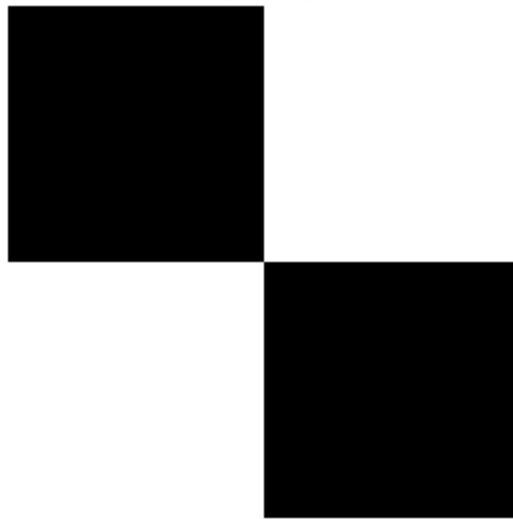
diferencias de valor absolut



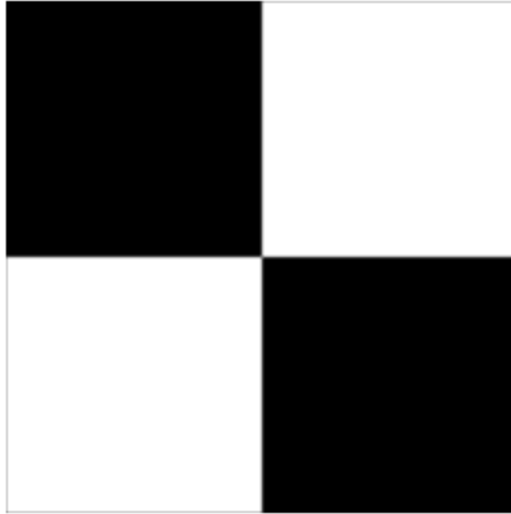
Suavitzat

```
im = ones(256);  
im(1:128, 1:128) = 0;  
im(129:256,129:256)=0;  
figure, imshow(im), title('imatge original')  
figure, surf(im)  
% convulucions  
im_res = im;  
% sumamos el pixel izquierdo  
im_res(:,2:end) = im_res(:,2:end) + im(:,1:end-1);  
% sumamos el pixel derecho  
im_res(:,1:end-1) = im_res(:,1:end-1) + im(:,2:end);  
% sumamos el pixel de arriba  
im_res(2:end,:) = im_res(2:end,:) + im(1:end-1,:);  
% sumamos el pixel de abajo  
im_res(1:end-1,:) = im_res(1:end-1,:) + im(2:end,:);  
%normalizamos  
im_res = im_res /5;  
figure, imshow(im_res), title('imatge suavitzat')
```

imatge original



imatge suavitzat



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