Table of Contents

Image Original

```
im = imread("Que_es.png");
imshow(im), title("img original")
im2 = im+200;
figure, imshow(im2), title('brightness')
im3 = im*10;
figure, imshow(im3), title('contrast')
im4 = 255-im3;
figure, imshow(im4), title('negatiu')
im5 = imcomplement(im3);
figure, imshow(im5), title('imcomplement')
```

contrast

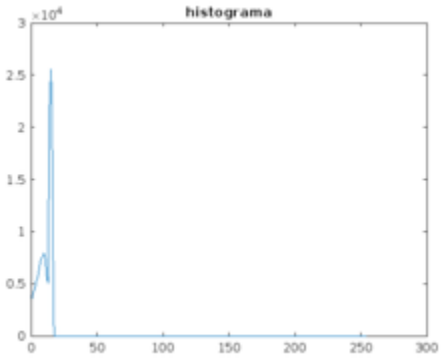
negatiu

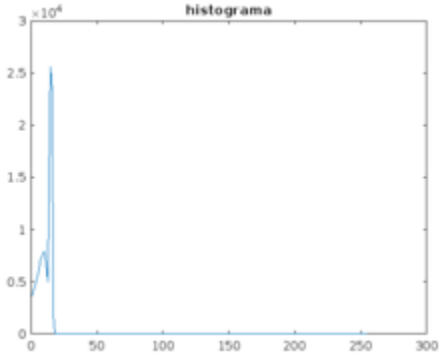
imcomplement

Histograma

```
count = zeros(1, 255);

for i = 1:size(im, 1)
    for j = 1:size(im, 2)
            aux = im(i, j);
            count(aux+1) = count(aux+1) + 1;
    end
end

figure, plot(count), title('histograma');

count = zeros(1, 255);
```

```
for i = 1:size(im, 1)
    for j = 1:size(im, 2)
            aux = im(i, j);
            count(aux+1) = count(aux+1) + 1;
    end
end

figure, plot(count), title('histograma');
```





Equalizar

```
im6 = histeq(im);
figure, imshow(im6), title('Equalitzacio')
```

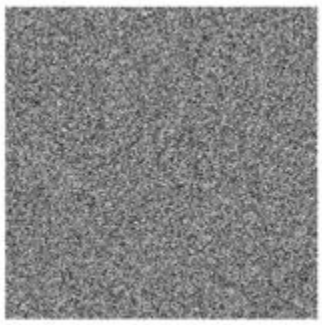
Transformacio

```
im = imread('lenna.tif');
imshow(im)
im2 = imresize(im,0.25);
figure, imshow(im2), title('Escala 1/4')

im3 = imresize(im2,4);
figure, imshow(im3), title('zoom x4')

im4 = imrotate(im,45);
figure, imshow(im4), title('rotacio')

T=affine2d([1,0,0;.5,1,0;0,0,1]);
im5 = imwarp(im,T);
figure, imshow(im5), title('warping')
```

Soroll

```
soroll = rand(size(im));
imshow(soroll)
soroll = soroll-0.5;
im6 = double(im)+soroll*80;
figure, imshow(im6,[]), title('soroll uniforma')

[indice_fila, indice_columna] = size(soroll);
total_elementos = indice_fila * indice_columna;
elementos_mutar = 0.2 * total_elementos;
indices = randperm(total_elementos, int32(elementos_mutar));
soroll(indices) = -1;
indices = randperm(total_elementos, int32(elementos_mutar));
soroll(indices) = 1;
```

```
im7 = double(im)+soroll*80;
figure, imshow(im7,[]), title('soroll impulsional')
```



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