

### practica 3

Código utilizado:

```
%funcion para calcular contorno de imagen
```

```
%
```

```
%entradas im =imagen en escala de grises th - intervalo de validacion
```

```
% salidas di = derivada de i dj = derivada de j grad = gradiente de la
```

```
% imgaen
```

```
function[di,dj,grad]= funtion(im)
```

```
im=rgb2gray(im);
```

```
[i,j]=size(im);
```

```
di=zeros(i,j);
```

```
dj=zeros(i,j);
```

```
grad=zeros(i,j);
```

```
i=i-1;
```

```
j=j-1;
```

```
for x=1:i
```

```
    for y=1:j
```

```
        di(x,y)=im(x+1,y)-im(x,y);
```

```
        dj(x,y)=im(x,y+1)-im(x,y);
```

```
        grad(x,y)=(di(x,y)^2+dj(x,y)^2)^0.5;
```

```
    end
```

```
end
```

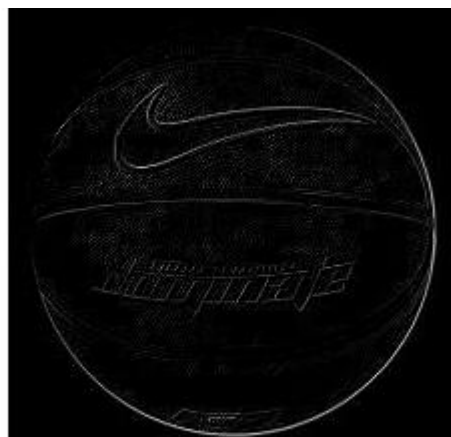
Derivada de i



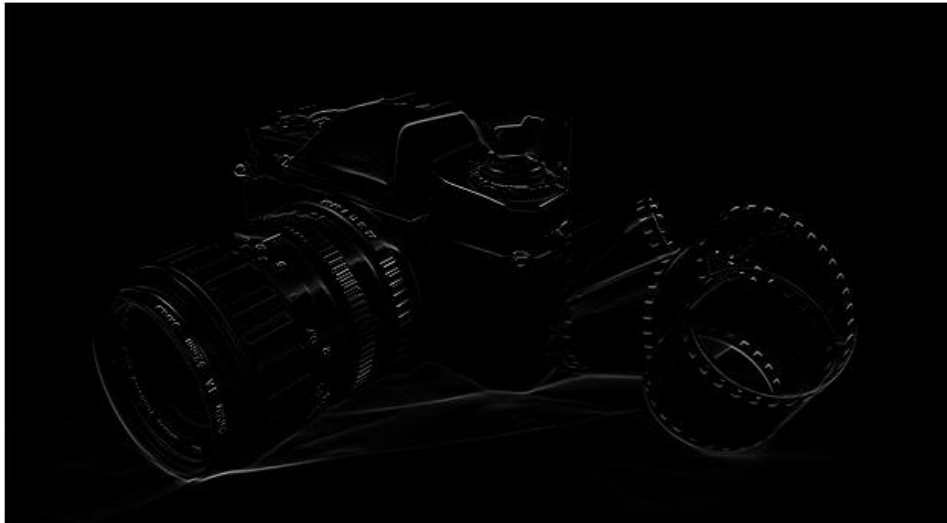
Derivada de j



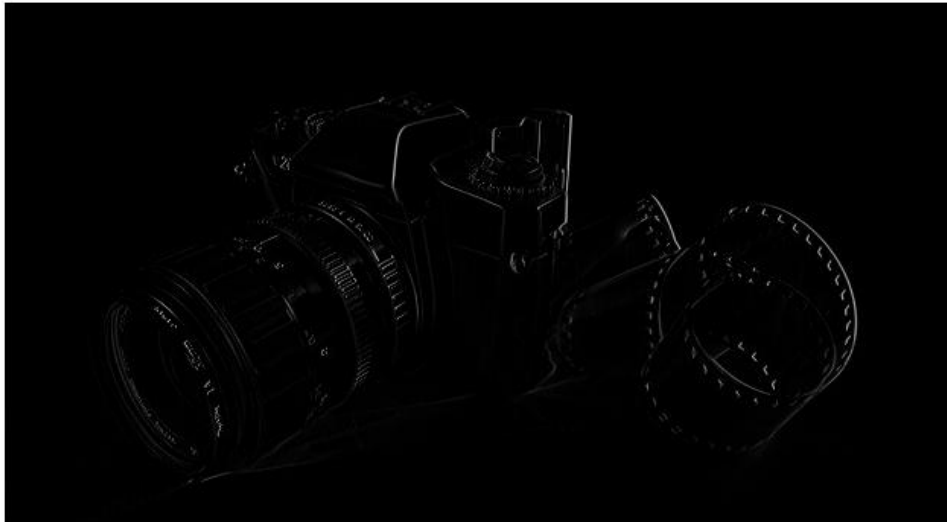
gradiente



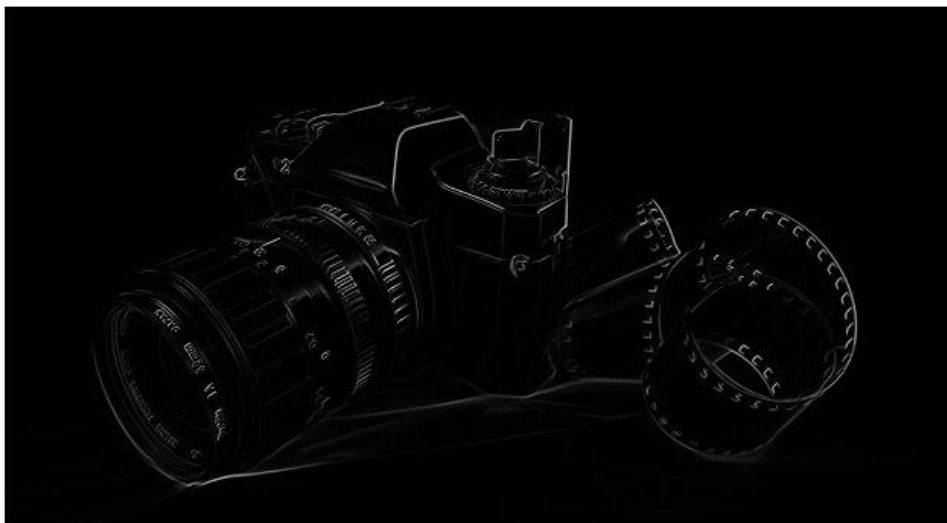
derivada de i



derivada de j

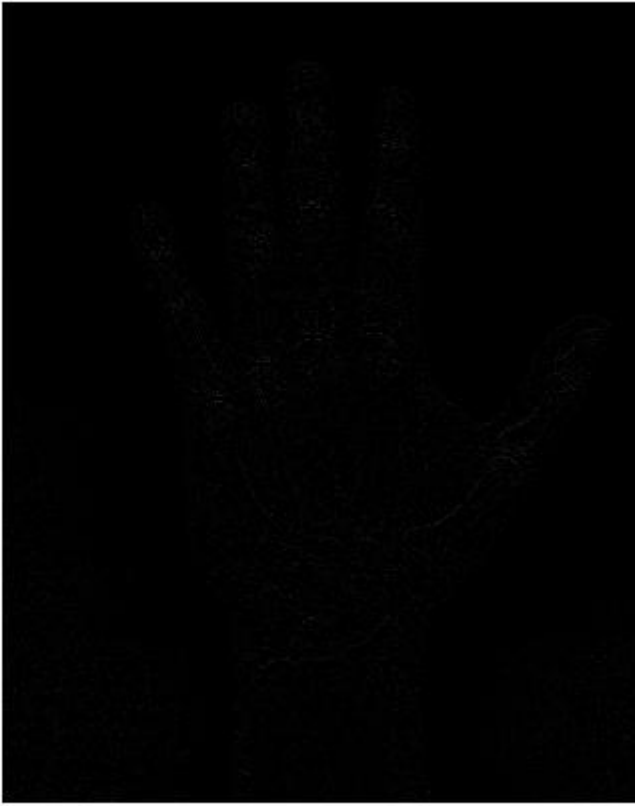


gradiente

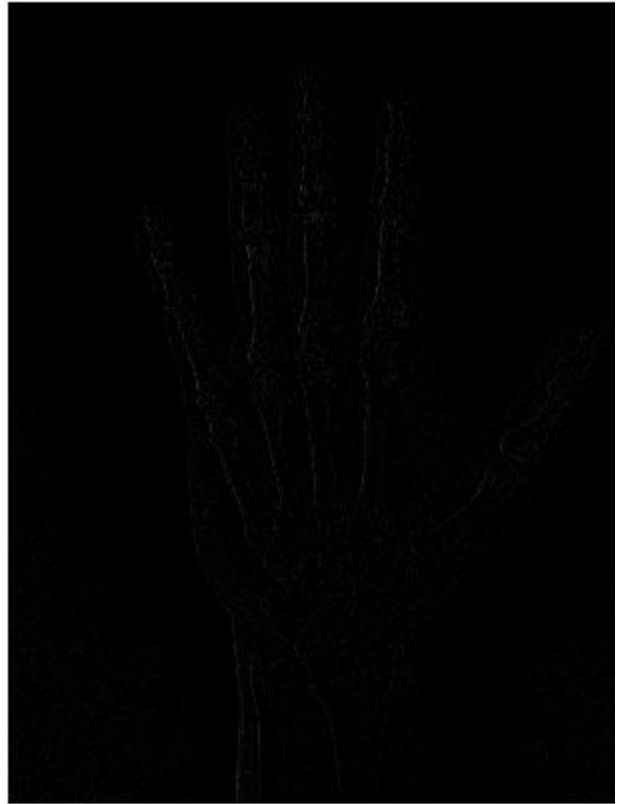


En esta imagen es necesario prestar mas atención ya que le borde casi no es visible.

Derivada de i



Derivada de j



Gradiente

