**EDGE DETECTION MASK USING SOBEL**

clc;

close all;

clear all;

a= imread('C:\Users\Public\Pictures\Sample Pictures\text.png');

a=imresize(a,[512 512]);

b=im2double(a);

b=rgb2gray(b);

m=512;

n=512;

for i=1:1:m-2

for j=1:1:n-2

Nx(i,j)=-1\*b(i,j)-2\*b(i,j+1)-1\*b(i,j+2)+0+0+0+1\*b(i+2,j)+2\*b(i+2,j+1)-1\*b(i+2,j+2);

end

end

for i=1:1:m-2

for j=1:1:n-2

Ny(i,j)=-1\*b(i,j)+0+1\*b(i,j+2)-2\*b(i+1,j)+0+2\*b(i+1,j+2)-1\*b(i+2,j)+0+1\*b(i+2,j+2);

end

end

figure;

subplot(2,2,1);

imshow(Nx);

title('Sobel Gx ');

subplot(2,2,2);

imshow(Ny);

title('Soble Gy ');

N=Nx+Ny;

subplot(2,2,3);

imshow(N);

title('Soble Gx+Gy ');

subplot(2,2,4);

imshow(b);

title('Original Image ');

**OUTPUT OF SOBEL**

