a pixel belongs to an edge or

Import RGB Image and convert to Gray scale:-

Import RGB the image
I rgb = imread ["peppers.png"
I rgb is a 384 × 512 × 3 int 8 array.
Three channels of IRGB represent red, green, blue
convert IRGB to gray scale so that you can work with a 2-D array instead of 3D array

I gray = rgb 2 gray (I rgb)

figure

Image (gray, [Data Mapping scale)
Color map (gray
title ('Input image is gray scale')

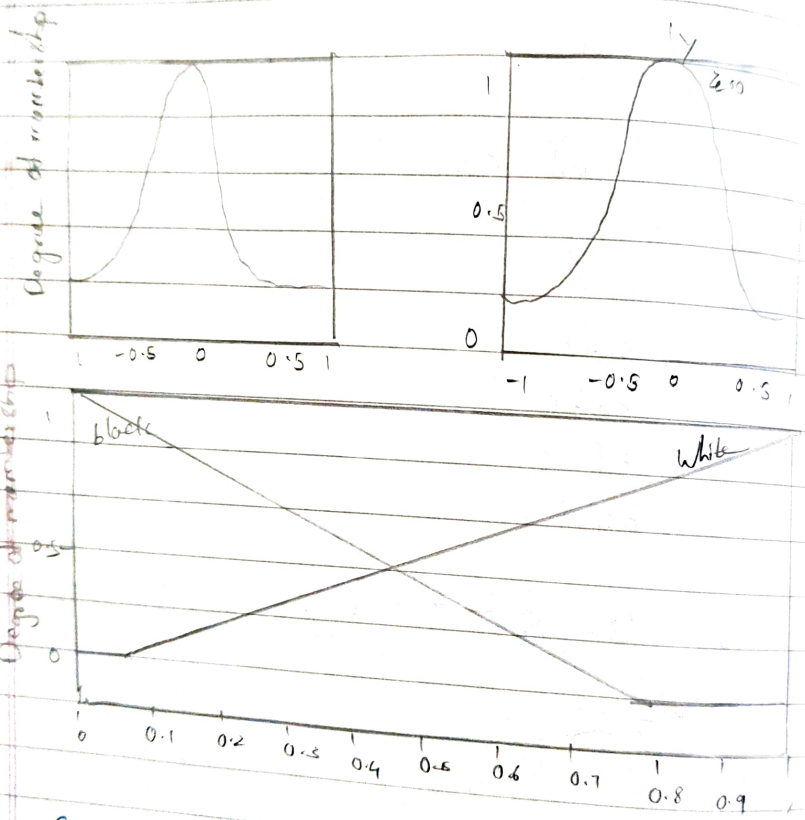
Convert image to double presion data

I = im 2 double (I gray)
Gx = [-1 1];
Gy = Gx';

```
Iy = conv2( I, Gy, 'same')
image (Ix, 'CDataMapping', 'Scaled')
Colormap (Gray)
title ('Ix')

image ('Y', 'CDataMapping', 'Scaled')
Color map ('gray')
title ('Iy')

edgeFIS = mamfis ('Name', 'edgeDetection')
edgeFIS = addInput (edgeFIS, [1 1], 'Name',
                                    'Ix');
    Sx = 0.1
    xy = 0.1

edgeFIS = addOutput (edgeFIS, [0, 1], 'name', 'Out');
    Wa = 0.1;
    Wb = 1;
    Wc = 1;
    ba = 0;
    bb = 0;
    bc = 0.7;

edgeFIS = addMF (edgeFIS, 'Iout', Print',
                    [wa wb wc], 'Name', 'White')

edgeFIS = addMF (edgeFIS, 'Iout', 'trimf',
                    [ba bb bc], Name, 'black',
```

Plot the membership of Inputs

```
Subplot (2,2,1)
Pplot mf (edge FIS, input 1)
title ('Ix')
Subplot (2,2,2)
Plot mf (edge FIS, input,2)
 title ('Iy')
Subplot (2,2, [3 4])
Plot mf (edge Fis, Output,1)
title ('Iout')
```



Specify FIS rule

r_1 = "If Ix is zero and Iy is zero then Iout is White."

r_2 = "If Ix is not zero and Iy is not zero then Iout is Black".

edge FIS. add rule(edge FIS, [Y1, Y2]),

edge FIS. saves ans . Ine fis rule one-by

Ix2 is rule array with properties

Description

Antiedant

Consequent

Weight

Connection

Details.

Description

1- "Ix == zero && Iy == zero => Iout = white(1)'

2- "Ix = zero1 && Iy ~= Zero => Iout = black(1)'

Evaluate FIS

Ix and Iy as inputs

local = zeros (sizes(1))';

for ii = 1: size (1,1)

level (ii, i) = evalfis(edge FIS, [Ix(ii,:)) (1)(ii,1)];

end

Plot results

Plot the Original gray scale image

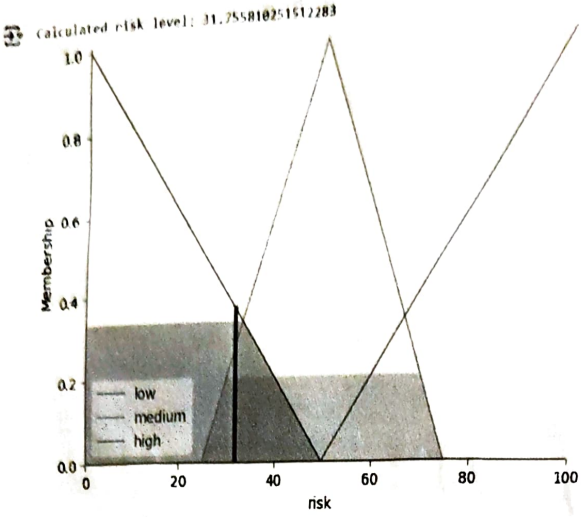
figure

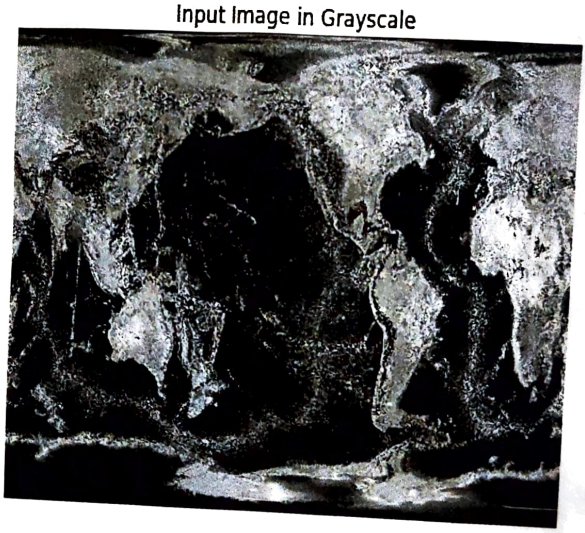
image (I, 1 ('Data mapping', 'scale')

Color map ('Gray')

title ('Original Gray scale image')

Output : Output :





Result : Hence we implemented the image processing technique using fu