Ex No:9 FUZZY LOGIC - IMAGE PROCESSING
Date:

AIM:-

The aim of implementing fuzzy logic for edge detection is to enhance the robustness & accuracy of edge detection in images by handling uncertainties in pixel intensity transitions

Procedure:-

Step1: Set up the Environment

1. Open MatLab: Ensure you have access to MATLAB with the image processing toolbox & fuzzy logic toolbox installed.

Step2: Import & convert image to Grayscale

1. Read the RGB Image
2. Convert to Grayscale

Step3:- Convert image to double precision data.

1. Convert to double

Step4: Obtain image gradient

1. Define gradient filters
2. Calculate Gradients
3. Plot image gradients

Step5: Define fuzzy inference system (FIS) for edge detection

1. Create FIS
2. Add inputs
3. Define membership for output
4. Add output
5. Define Membership functions for output
6. Plot Membership functions

Step6: Specify FIS rules

1. Add rules for FIS

Step7: Evaluate FIS

1. Evaluate edge detection

Step8: Plot results

Result:-

The program was successfully executed and the O/P is verified.