%point line edge detection

clc;

clear;

close all;

f = imread('saturn.png');

subplot(1,2,1), imshow(f), title('Input Image');

% Corrected the multiplication operator

w = 1/9 \* ones(3);

g1 = imfilter(f, w);

subplot(1,2,2), imshow(g1), title('mask of size 3x3');

w = 1/25 \* ones(5);

g2 = imfilter(f, w);

figure, subplot(1,2,1), imshow(g2), title('mask of size 5x5');

w = 1/81 \* ones(9);

g3 = imfilter(f, w);

subplot(1,2,2), imshow(g3), title('mask of size 9x9');

w = 1/225 \* ones(15);

g4 = imfilter(f, w);

figure, subplot(1,2,1), imshow(g4), title('mask of size 15x15');

w = 1/1225 \* ones(35);

g5 = imfilter(f, w);

subplot(1,2,2), imshow(g5), title('mask of size 35x35');