Image Processing

Prepared by

Sezer Can Ekiz 202011034

Codes

```
% Clear workspace
clear all
close all
% Creating an 512x512 black image
image = zeros(512,512);
% Specified number of rectangular
n=8;
% Create rectangular
for i = 1:n
	% Position of rectangular on image
	x = randi([1, 512]);
	y = randi([1, 512]);
	% Width and height of rectangular between 10 and 200
	width = randi([10,200]);
	height = randi([10,200]);
	% Random intensity value between 100 and 255
	intensity = randi([100, 255]);
	% Draw rectangular
	image(y:y+height, x:x+width) = intensity;
end
% Show image
imshow(image, []); title('Homework1__SezerCanEkiz__202011034'); pause(0.5);
```

Description

This code allows creating a black and white image using MATLAB and adding a specified number of random rectangles. The steps involved are as follows:

Firstly, it clears the workspace, closes all open figures, and creates a black image with dimensions of 512x512.

Then, a certain number of rectangles (n) specified by the user are created. In this code, for instance, n is set to 8.

Each rectangle is placed at a random position on the designated image.

The widths and heights of the rectangles are randomly chosen between 10 and 200.

The intensity of pixels within the rectangles takes random values between 100 and 255.

Each created rectangle is placed onto the image.

Finally, the resulting image is displayed.

This code visualizes a generated image with randomly added rectangles. Such a process could find application in scenarios such as adding random objects to an image or altering the positions of objects within an image randomly. The student name and assignment number are included as the title of the displayed image at the end of the code.

Output