HOMEWORK 3
COMP 4687 – Introduction to Computer Vision

Binary Morphological Operations

Use one-of-the-three image outputs of your HOMEWORK #2. Please name this image as "**yourSurname.png**"

For example,
Devrim Akca
212CE2345

Image file name: **Akca.png**

This **yourSurname.png** image file will be input image of your HOMEWORK #3.
Apply the following operations and display the results as an image after each step.
You can use Matlab functions. Write everything in a single matlab.m file.

1) Use **rgb2gray()** method to convert the **yourSurname.png** 24-bit image to a grey scale image.

2) Threshold this grey scale image into a binary image by using a manual threshold value. Use **im2bw()** method.

3) Erosion the binary image with a square 3x3 structuring element (mask). Use **imerode()** method.
4) Dilation the binary image with a square 3x3 mask. Use **imdilate()** method.
5) Opening the binary image with a square 7x7 mask. Use **imopen()** method.
6) Closing the binary image with a square 7x7 mask. Use **imclose()** method.

HW3_1

Write all operations in a single Matlab script.
File naming should follow the below format:

Surname_Name_StudentID_LectureCode_HW3_1.m

Example: **Akca_Devrim_212CE2345_Comp4687_HW3_1.m**

Please upload your Matlab file and input image file (**yourSurname.png)** to "**Ödevler (HWs / Projects)**" section under the BlackBoard system.

Please use the "HW3" assignment link.

The deadline is until **November 18, 2024, Monday, 10:00pm**.
All homework will be accepted by the Assignment link. Please do not sent your homework through e-mail.
Please do not send a compressed file (zip, rar, etc.). Upload each file separately.

Please prepare your homework alone. It is a self-study.
We use a special "code-checker" which can automatically detect all similar Matlab files. Do not make a copy/paste from an external source.

GRADING

Submitting the homework Matlab file		+ 30
Submitting the input image file		+ 10
All correct answers		+ 60
Copy (Exactly same)		= 1
Copy (similar or identical)		= 10
Mistake in the Matlab file name		- 10
Mistake in the input image file name		- 10
Submitting a compressed file		- 10
Submitting a web link		- 20
Late submission	< 2 hour	- 20
	< 24 hours	- 40
	< 48 hours	- 60
	> 48 hours	= 0