Computer Vision Homework 5 B07902078 資工三 沈韋辰

`Language: Python3.8.3`

`Modules: OpenCV(cv2), numPy`

(a) Dilation

Algorithm:
Let the original binary image called **lena1**, and a copy of **lena1** called **lena2**. For all the pixels in **lena2**, its value is the ***maximal*** value in the kernel (3-5-5-5-3) on the corresponding pixel in **lena1** and notice to check if the kernel is out of the image range. **lena2** is the result that we want.

(b) Erosion

Algorithm:
Let the original binary image called **lena1**, and a copy of **lena1** called **lena2**. For all the pixels in **lena2**, its value is the ***minimal*** value in the kernel (3-5-5-5-3) on the corresponding pixel in **lena1** and notice to check if the kernel is out of the image range. **lena2** is the result that we want.

(c) Opening

Algorithm:

Opening is just doing erosion and then dilation on the image with the same kernel.

(d) Closing

Algorithm:

Closing is just doing dilation and then erosion on the image with the same kernel.