HW 5 Mathematical Morphology

Mathematical Morphology - Gray Scale Morphology

Source code

Please refer to the file "hw5.py" within the same folder as this report document. There are two main functions for this homework:

1. dilation(src, kernel)

2. erosion(src, kernel)

```
This function does the erosion operation.

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Param sers should be an image

param threshold should be an integer (default 128 if not given)

return a resulted image

return newImage = Image.new(src.mode. src.size)

newImagePixels = newImage.load()

return newImage

return newImage
```

Kernel Representation

A class is defined for kernel representation:

get directions(self)

it returns list of directions, i.e., "vectors", for us to traverse the kernel.

The kernel patterns used in this homework

← We use oct_kernel_pattern with origin = (2, 2)

Result (the resulted images are saved properly within the same folder as well)



↑ Dilation.bmp



↑ Erosion.bmp



↑ Opening.bmp



↑ Closing.bmp