Machine Vision Homework#5

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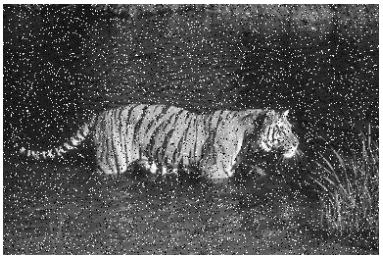
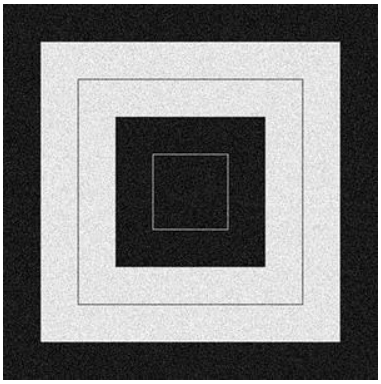
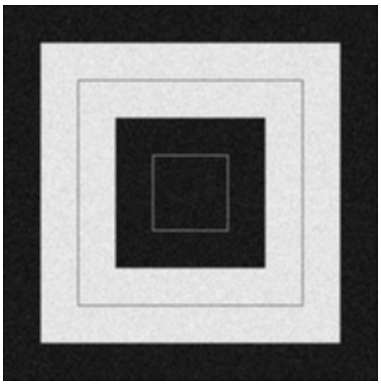
Original Image

1. Implement Mean Filter with 3*3 and 7*7 mask.

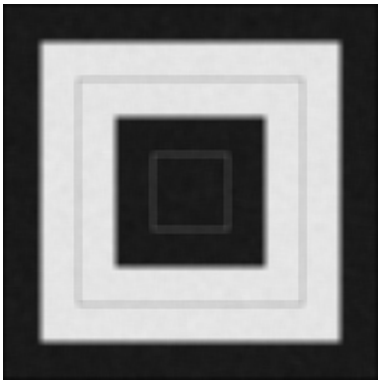
- 指定 kernel_size 的大小，將範圍內的值全部加總起來，再除以 kenel 的大小，得到的值就是新的 pixel 值
- 3x3(kernel_size=3)





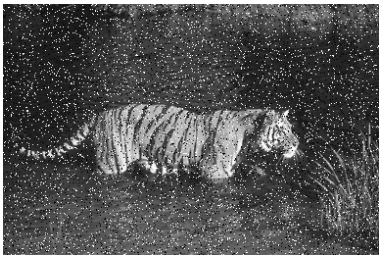
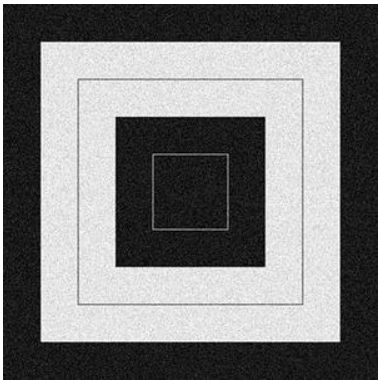
- 7x7(kernel_size=7)



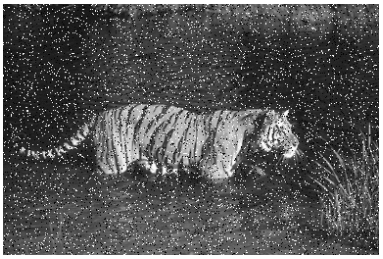
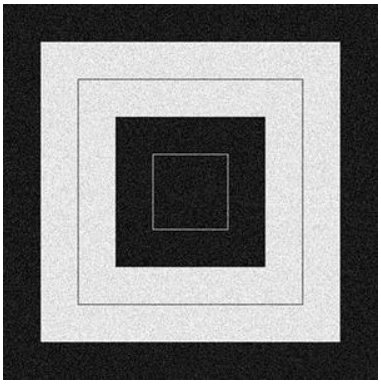


2. Implement Median Filter with 3*3 and 7*7 mask.

- 指定 kernel_size 的大小，將範圍內的值排序，index 在正中間的數值作為新的 pixel 值
- 3x3

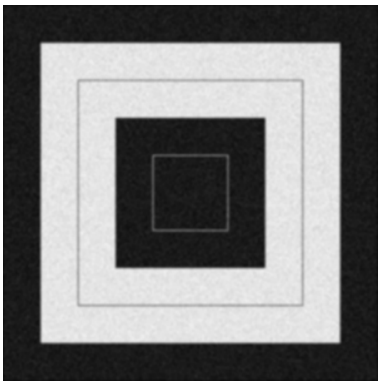




- 7x7

3. Implement Gaussian 2D Filter with 5*5 mask.

$\sigma = 1$,, kernel size = 5x5

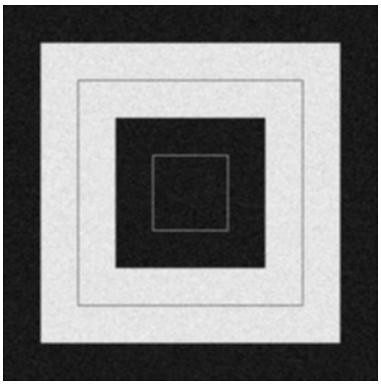


DLC

Merge Gaussian and Median Filter

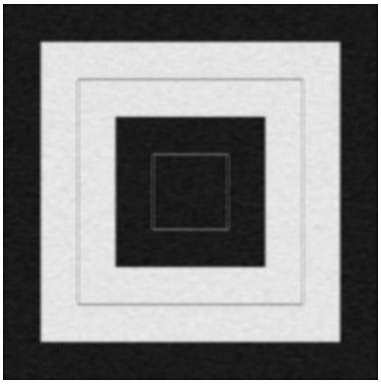
- 3x3





- 5x5





- 7x7