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EECS 101

February 3 2023

Homework 3

1. Written problem

8	8	14	10	11
12	9	12	10	10
12	10	12	12	8
14	11	8	9	11

Mean and variance for current region

Pixel value: 8 (upper left corner)

- Mean: 8
- Variance: 0

Pixel value: 8, 8 (going right)

- Mean: 8
- Variance: 0

Pixel value: 8, 8, 14

- Mean: 10
- Variance: 44

Pixel value: 8, 8, 14, 10

- Mean: 10
- Variance: 4

Pixel value: 8, 8, 14, 10, 11

- Mean: 10.6
- Variance: 7.2

Pseudocode:

```
Function region(grayImage, startingPixel):
    Region = [];
    Mean = 0;
    Variance = 0;
    region.add(startingPixel);
        Loop:
            Mean = calculateMean(Region);
            Variance = calculateVariance(Variance);
            If variance <= 1:
                Region2 = [];
```

2. Computer problem
    a. Image 1:
        i. Threshold chosen: 137
    b. Image 2:
        i. Threshold chosen: 163
    c. Image 3:
        i. Threshold chosen: 47

    Images:

    Image1-b.ras:

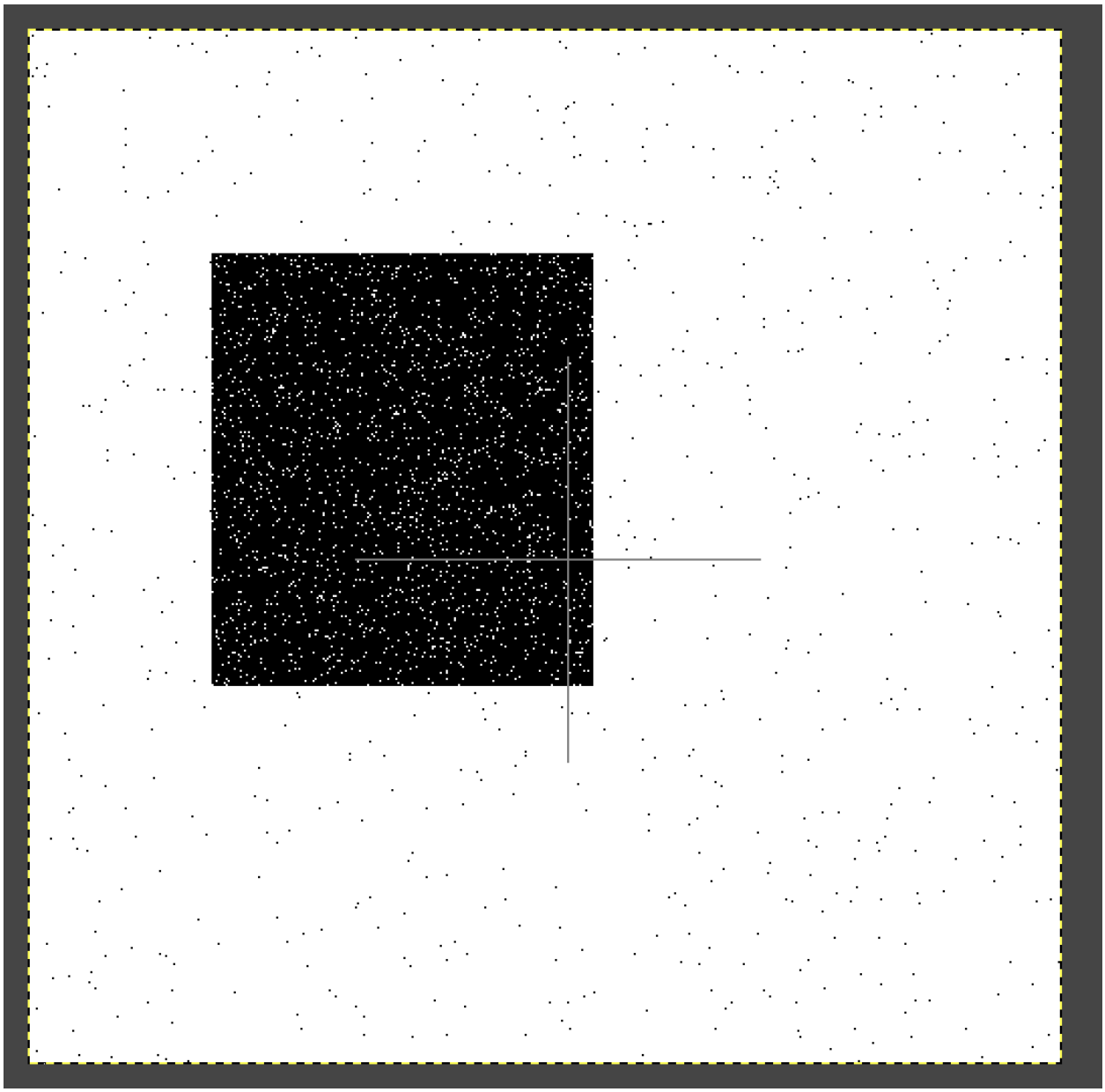

Image1.ras:

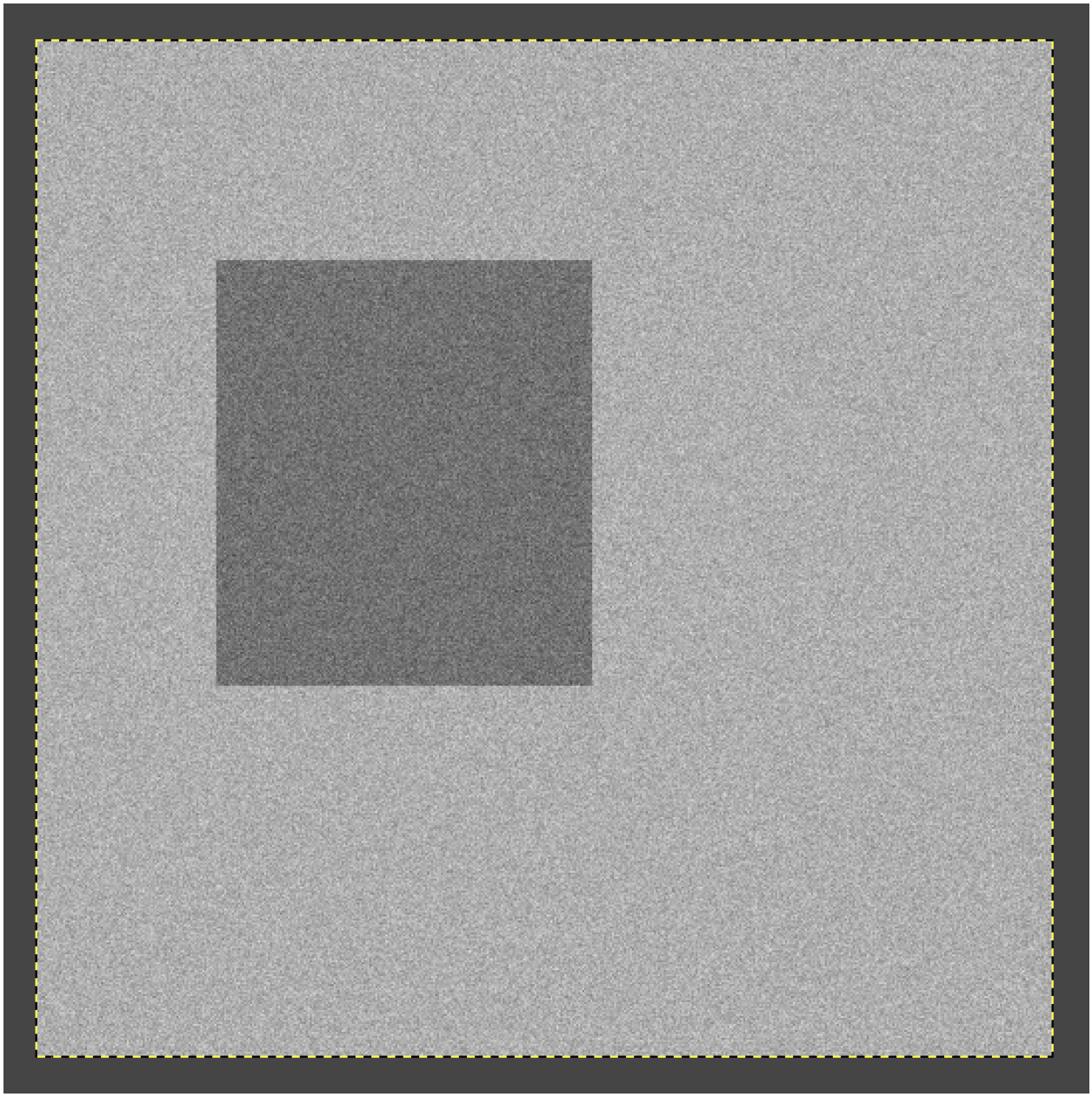

Image2-b.ras:

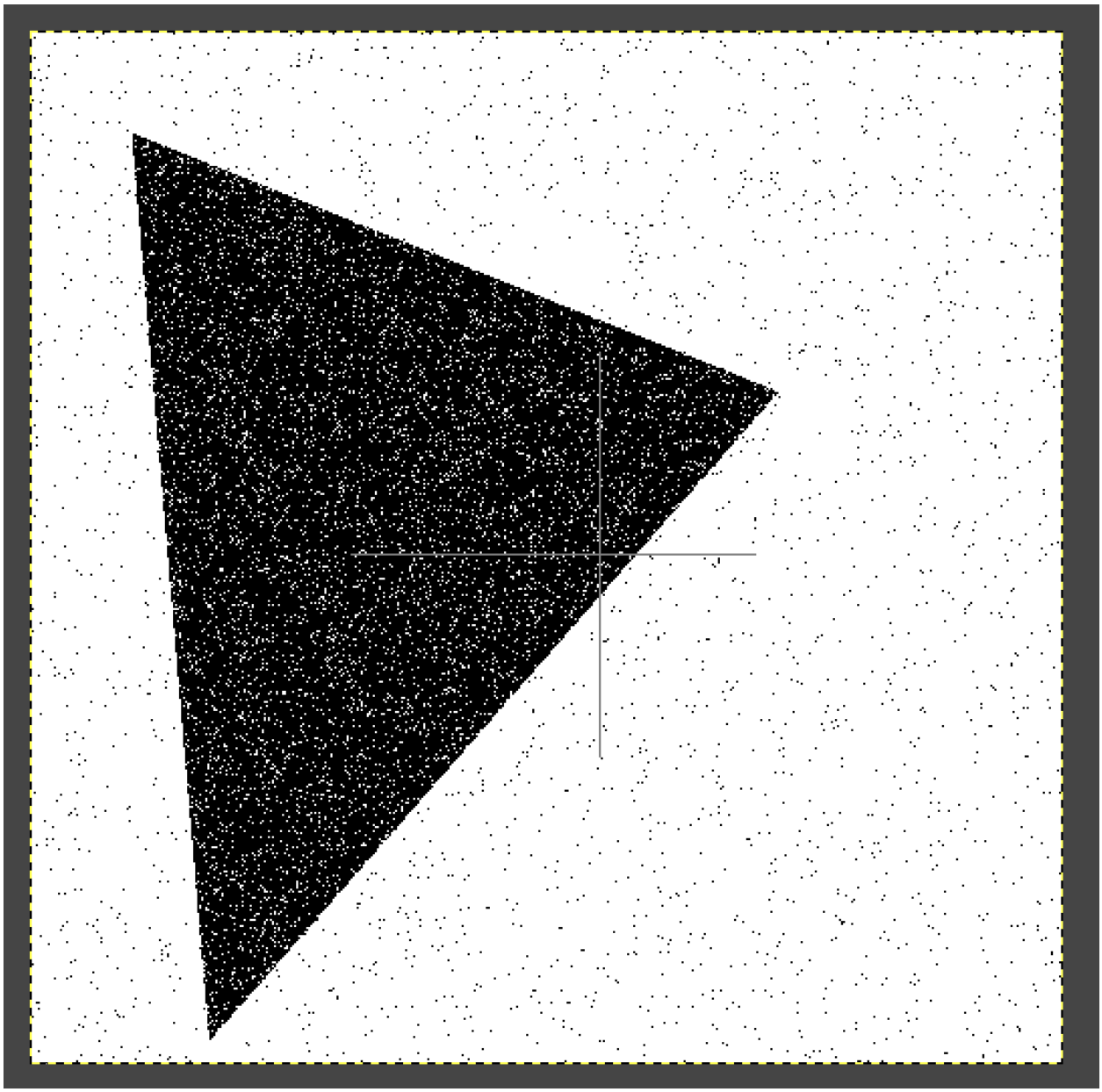

Image2.ras:

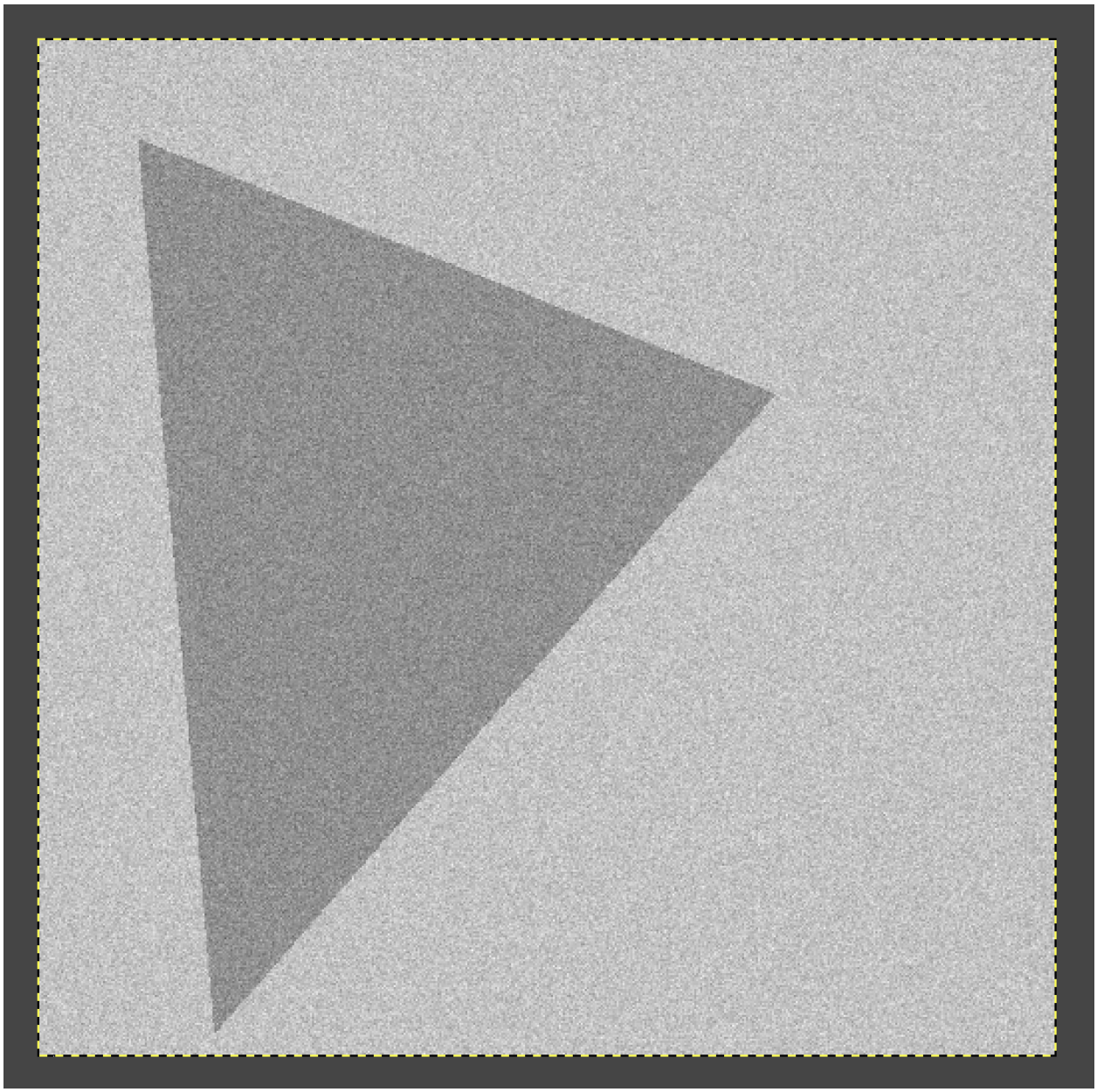

Image3-b.ras:

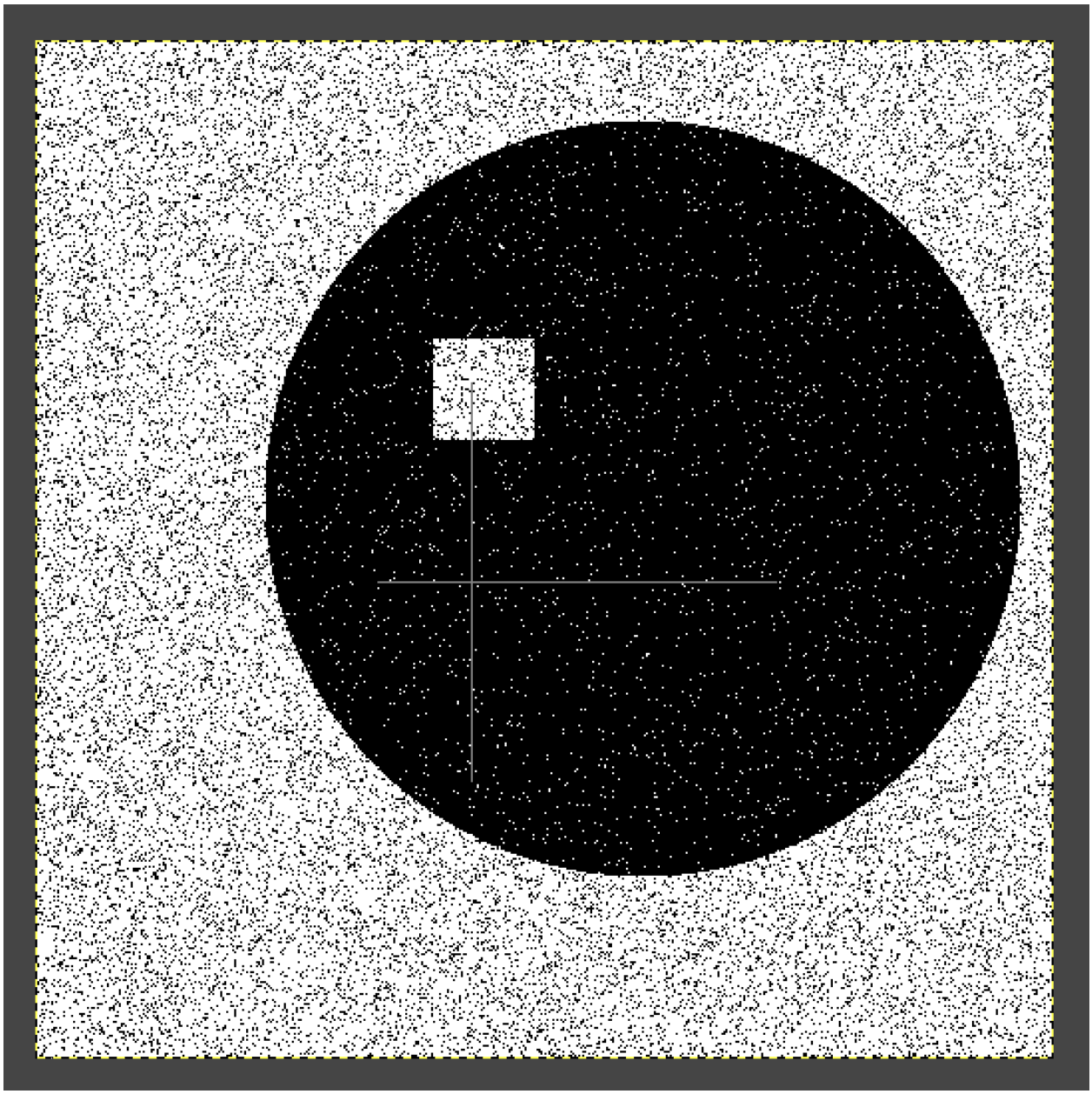

Image3.ras: