Jack Melcher

67574625

EECS 101

1/29/2017

HW 3

Written Problem

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

Region 1

8	8		10	
	9		10	10
	10			8
		8	9	

Step Process for Region 1

Step 1

N = 1: 8

$\mu = \frac{8}{1} = 8$

$\sigma_1^2 = 0$

$H(R_1) = TRUE$

Step 2

N = 2: 8, 8,

$\mu = \frac{16}{2} = 8$

$\sigma_1^2 = 0$

$H(R_1) = TRUE$

Step 3

N = 3: 8, 8, 9

$\mu = \frac{25}{3} = 8.33$

$\sigma_1^2 = \frac{2}{9} = 0.22$

$H(R_1) = TRUE$

Step 4

N = 4: 8, 8, 9, 10

$\mu = \frac{35}{4} = 8.75$

$\sigma_1^2 = \frac{11}{16} = 0.6875$

$H(R_1) = TRUE$

Step 5

N = 5: 8, 8, 9, 10, 8

$\mu = \frac{43}{5} = 8.6$

$\sigma_1^2 = \frac{16}{25} = 0.64$

$H(R_1) = TRUE$

Step 6

N = 6: 8, 8, 9, 10, 8, 9

$\mu = \frac{52}{6} = 8.67$

$\sigma_1^2 = \frac{5}{9} = 0.55$

$H(R_1) = TRUE$

Step 7

N = 7: 8, 8, 9, 10, 8, 9, 8

$\mu = \frac{60}{7} = 8.57$

$\sigma_1^2 = \frac{26}{49} = 0.53$

$H(R_1) = TRUE$

Step 8

N = 8: 8, 8, 9, 10, 8, 9, 8, 10

$\mu = \frac{70}{8} = 8.75$

$\sigma_1^2 = \frac{11}{16} = 0.6875$

$H(R_1) = TRUE$

Step 9

N = 9: 8, 8, 9, 10, 8, 9, 8, 10, 10,

$\mu = \frac{80}{9} = 8.88$

$\sigma_1^2 = \frac{62}{81} = 0.76$

$H(R_1) = TRUE$

Step 10

N = 10: 8, 8, 9, 10, 8, 9, 8, 10, 10, 10

$\mu = \frac{90}{10} = 9$

$\sigma_1^2 = \frac{4}{5} = 0.80$

$H(R_1) = TRUE$

Step 11

N = 11: 8, 8, 9, 10, 8, 9, 8, 10, 10, 10, 11

$\mu = \frac{101}{11} = 9.18$

$\sigma_1^2 = \frac{128}{121} = 1.05$

$H(R_1) = FALSE$

Computer Problem

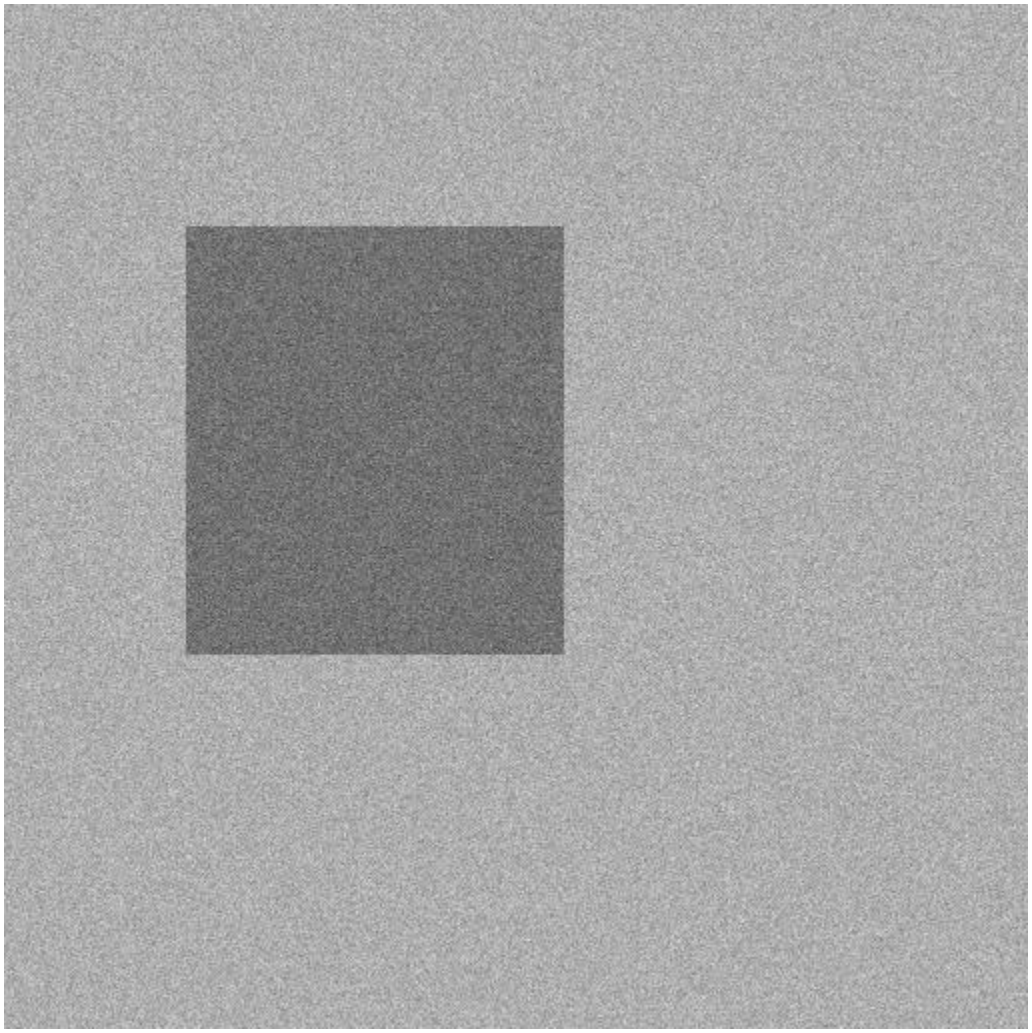

Figure 1: image1.ras

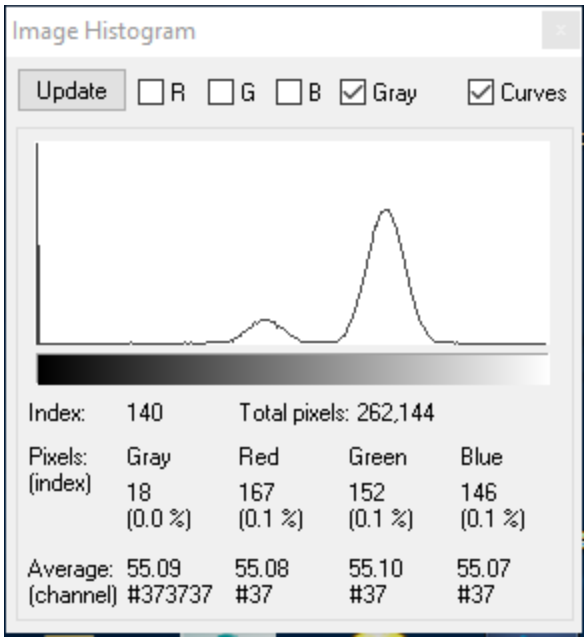

Figure 2: image1.ras histogram

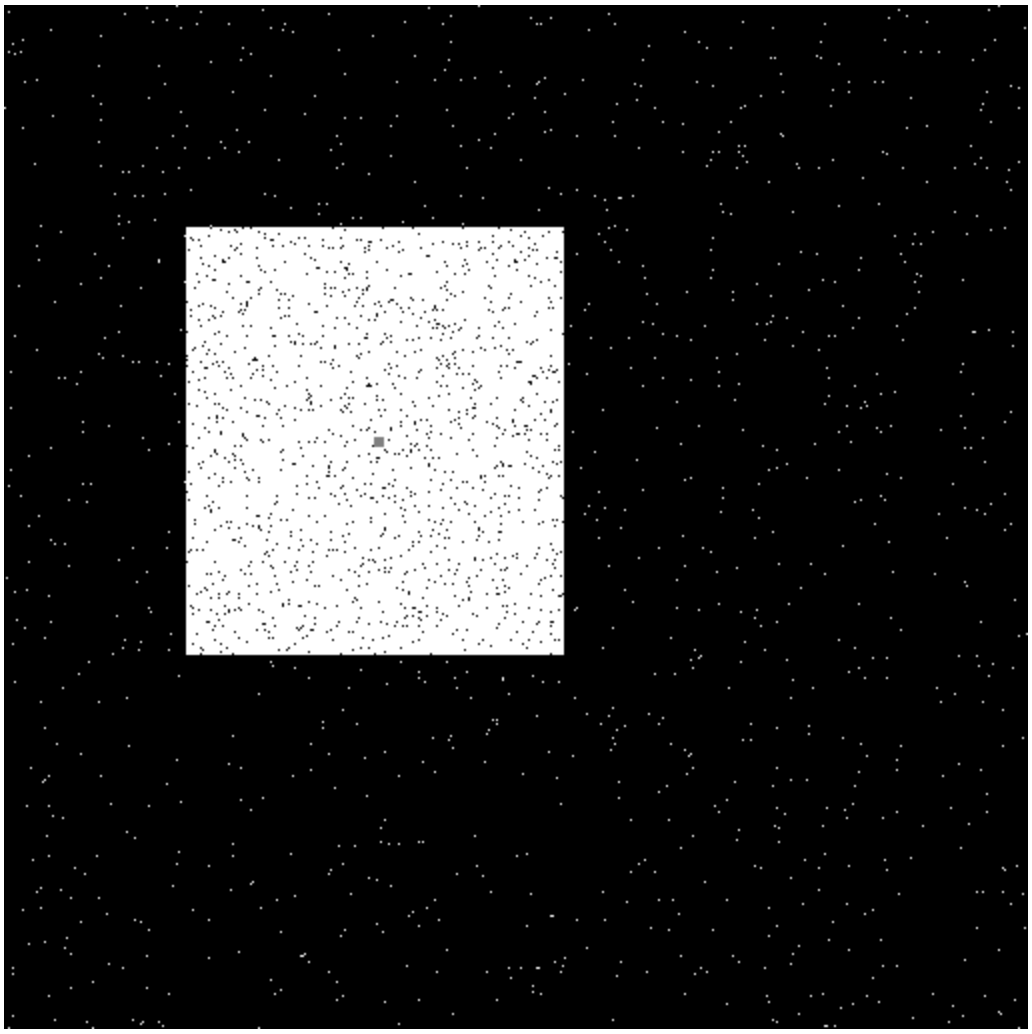

Figure 3: image1.ras binary image with object center

Threshold: 167

Area: 40082

Center Coordinate: (187, 218)

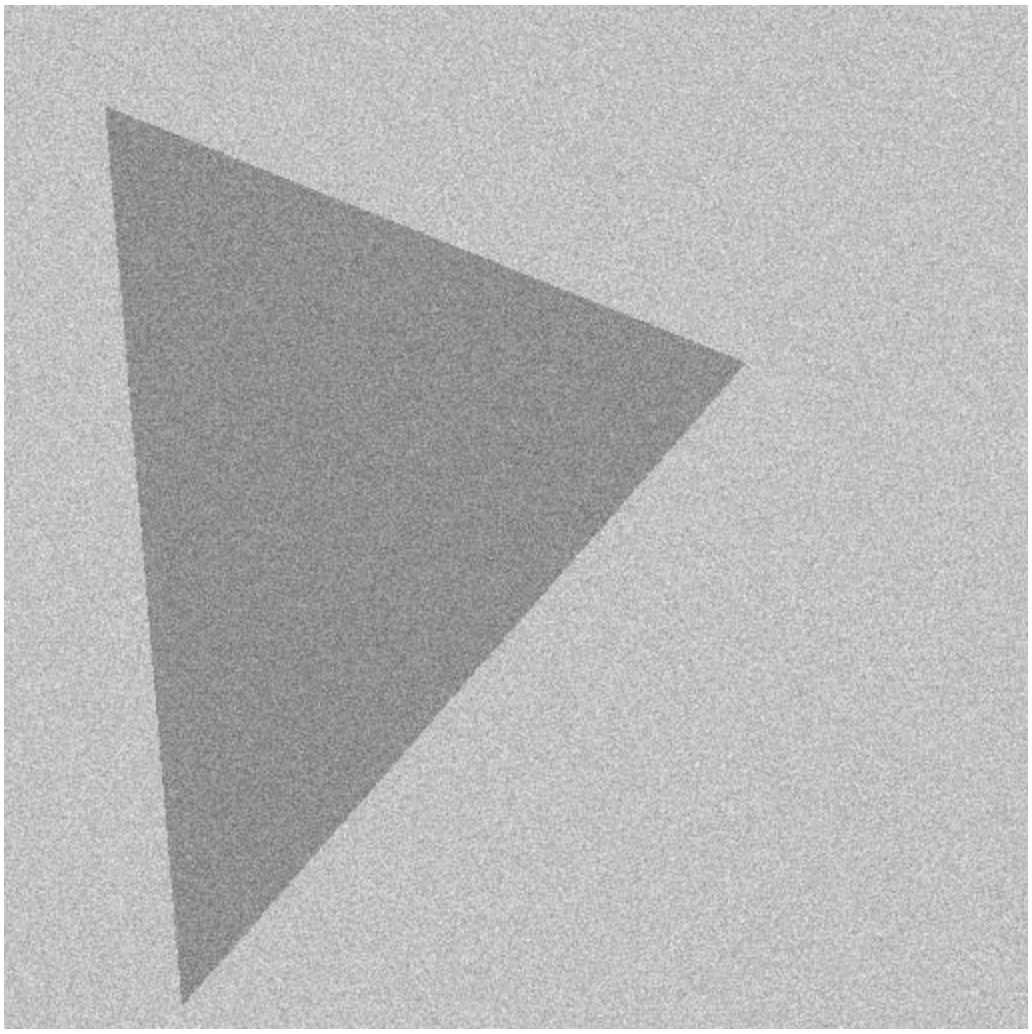

Figure 4: image2.ras

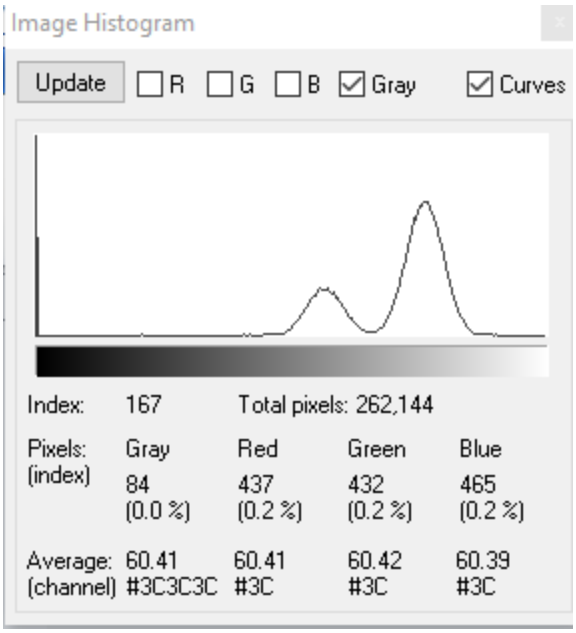

Figure 5: image2.ras histogram

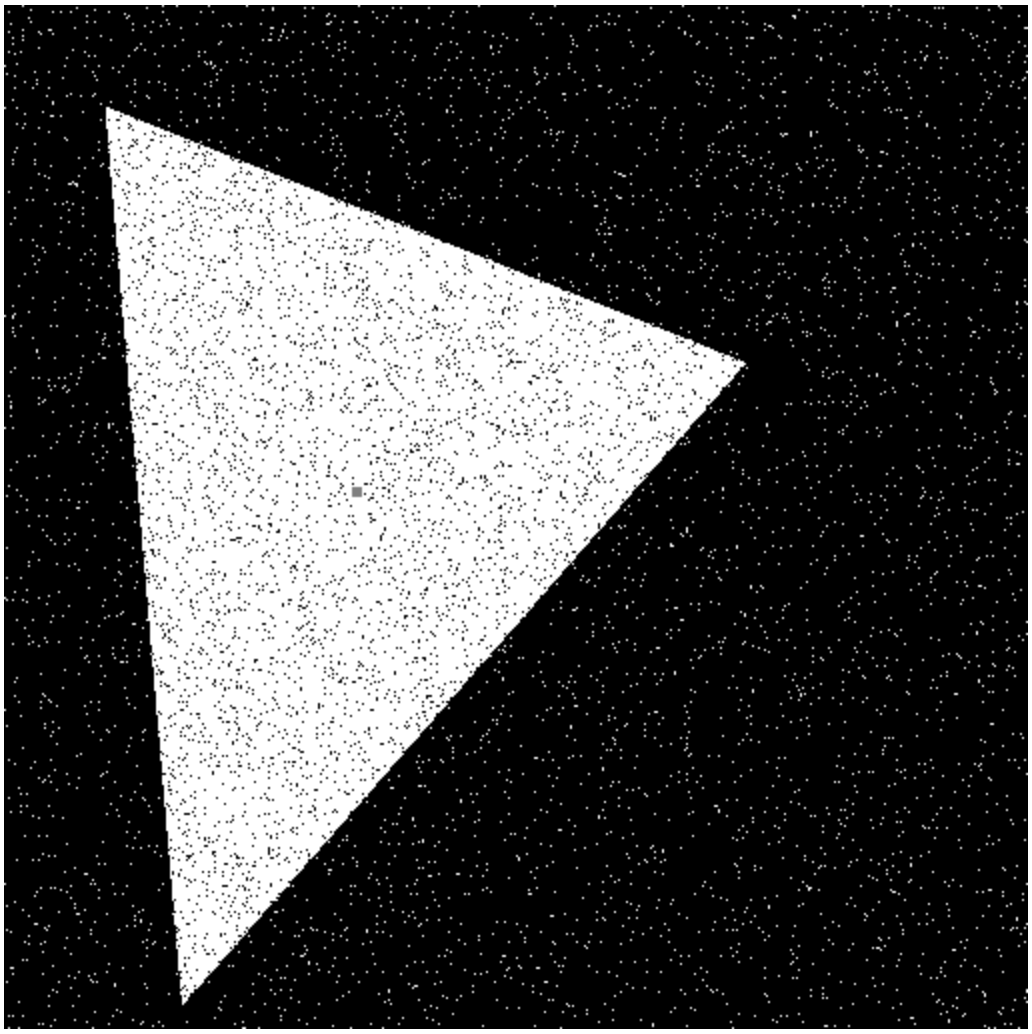

Figure 6: image2.ras binary image with object center

Threshold: 140

Area: 69668

Center Coordinate: (176, 243)

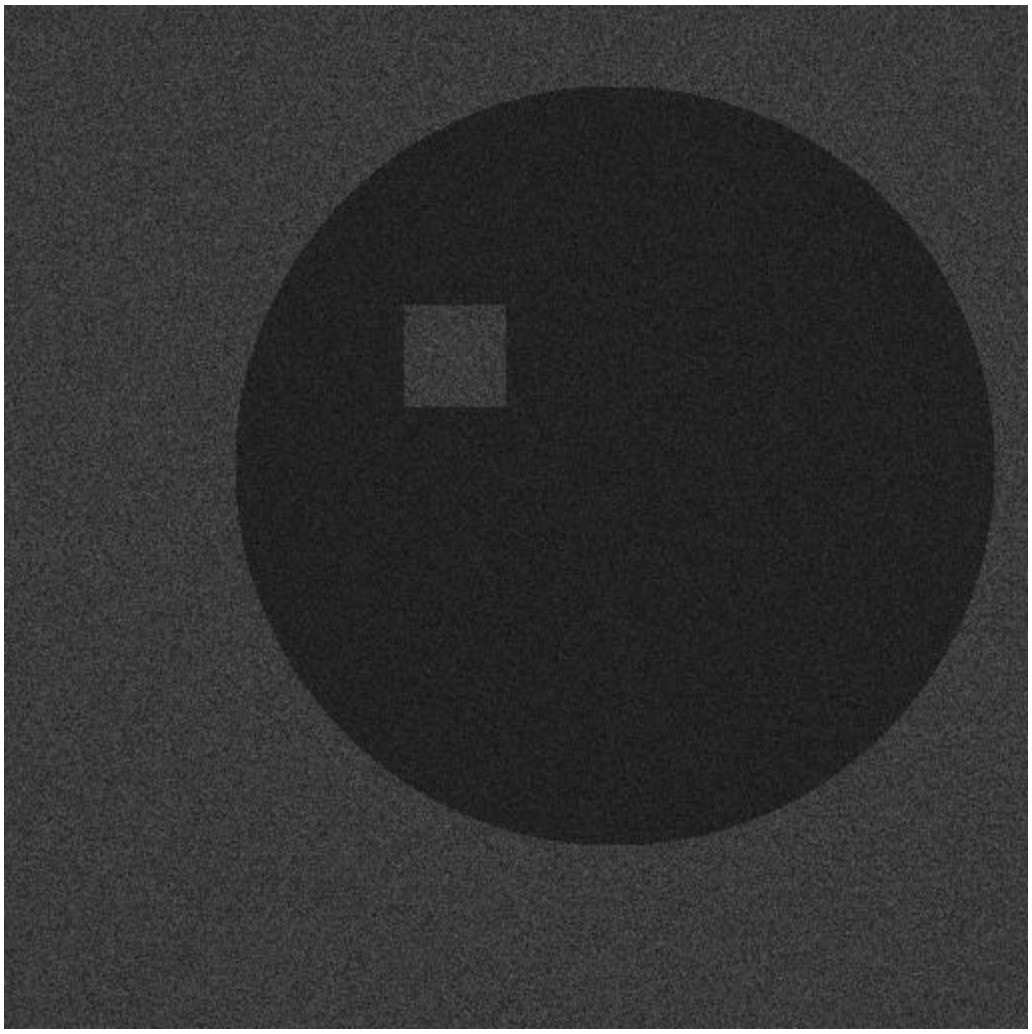

Figure 7: image3.ras

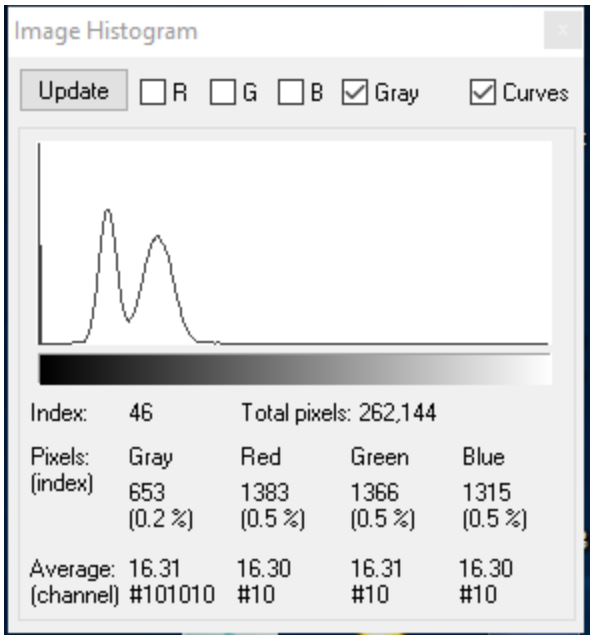

Figure 8: image3.ras histogram

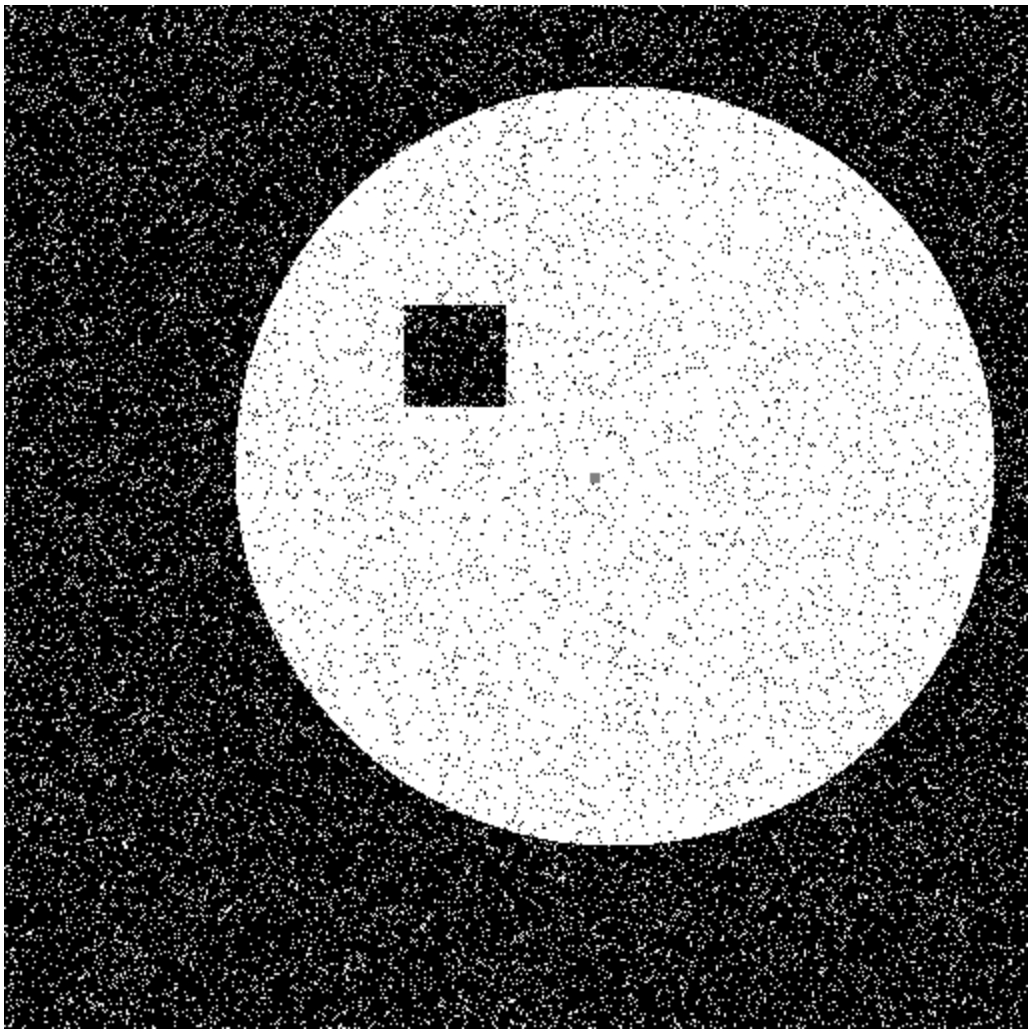

Figure 9: image3.ras binary image with object center

Threshold: 46

Area: 121486

Center Coordinate: (295, 236)