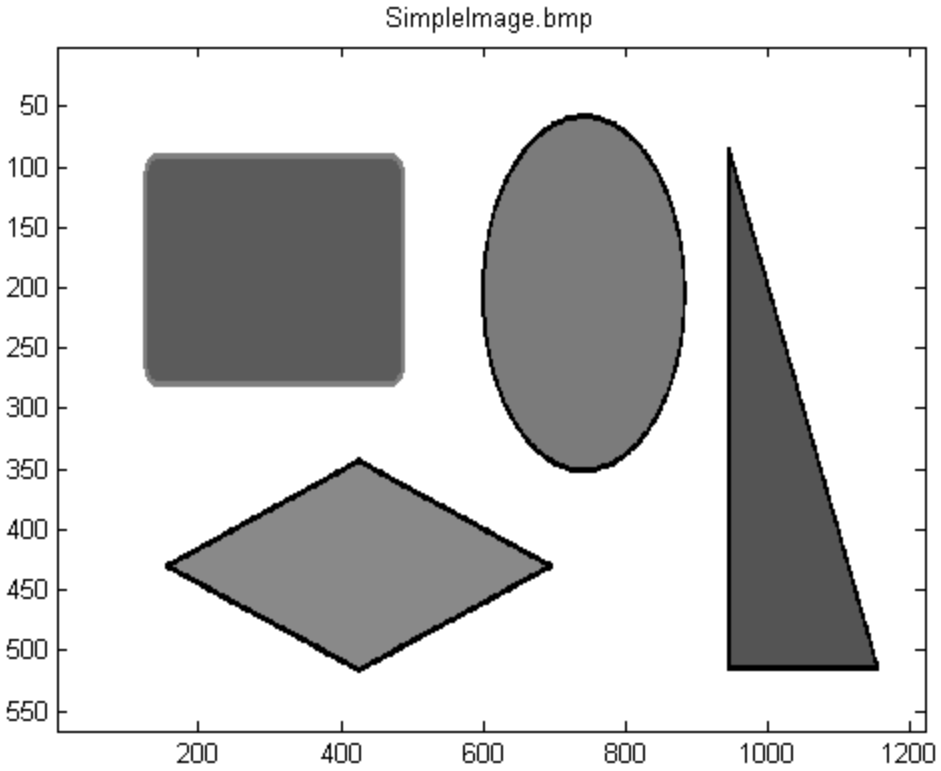
```
% amalhot5, main.m, Arnav Malhotra
% Worked on by myself
% Calls all the scripts for each part of the project
close all
clear all
clc

disp('1. Read and Display an Image')
grayscale
```

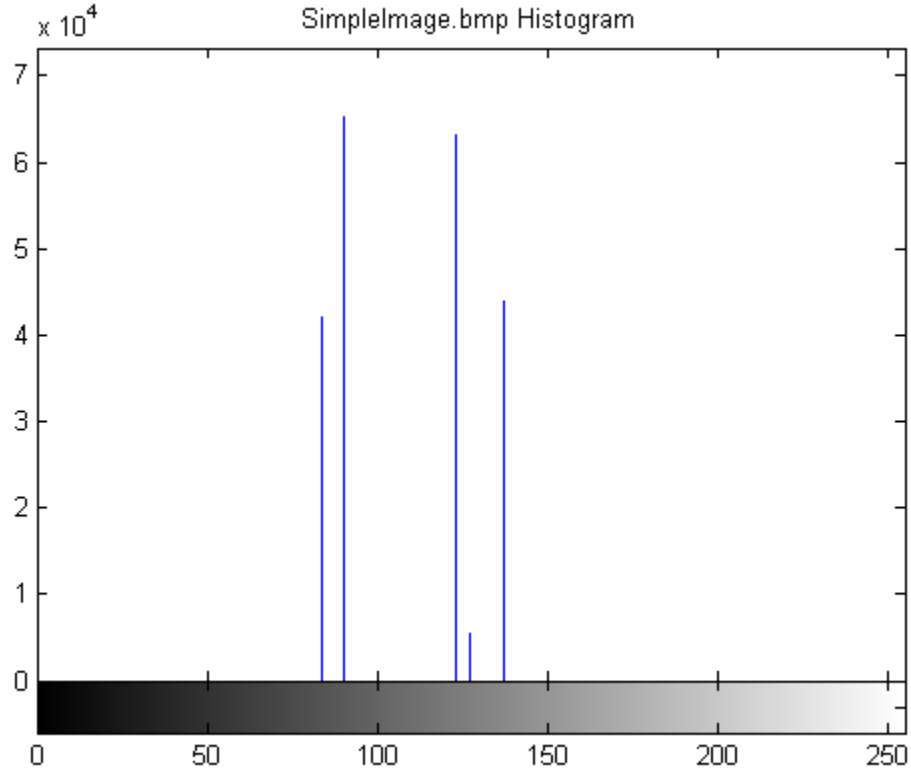
```
1. Read and Display an Image

Warning: Image is too big to fit on screen; displaying at 67%
Warning: Image is too big to fit on screen; displaying at 67%
```

Hopkins1.bme Grayscale

```
disp('2. Read and Display Histogram of Image')
DispHistogram
```

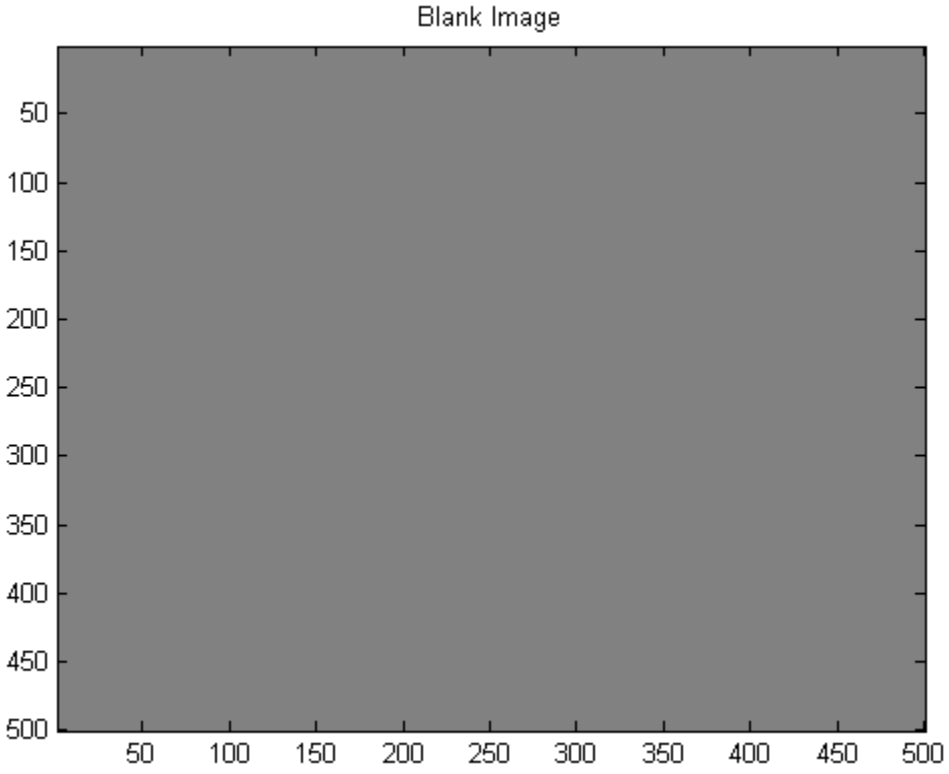
2. Read and Display Histogram of Image

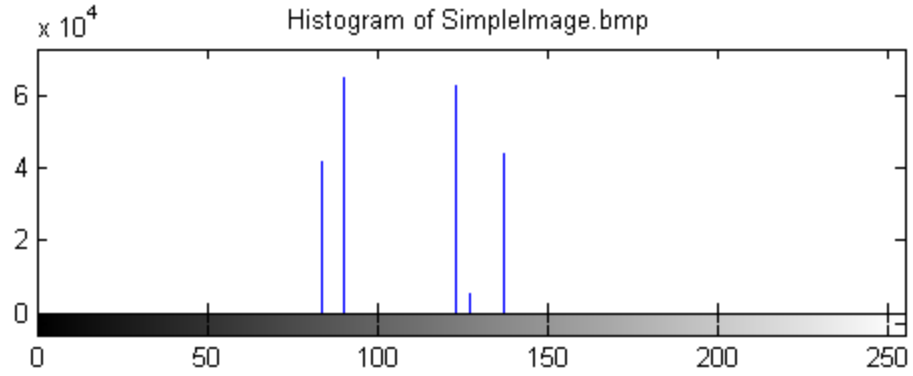

SimpleImage.bmp
50
100
150
200
250
300
350
400
450
500
550
200
400
600
800
1000
1200

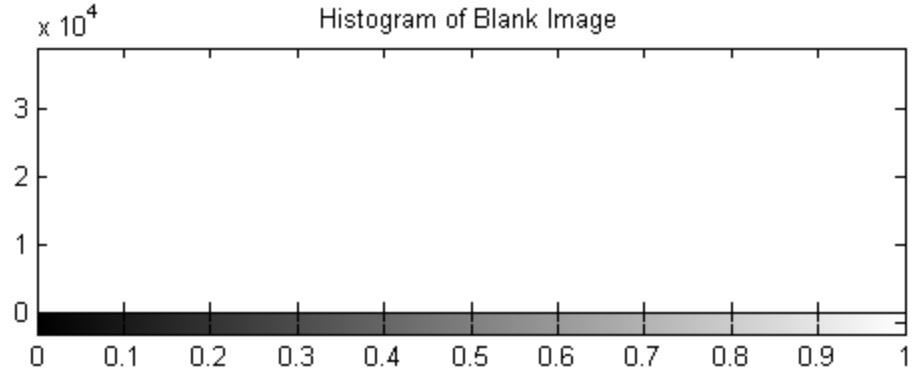

SimpleImage.bmp Histogram
x 10^4
7
6
5
4
3
2
1
0
0
50
100
150
200
250

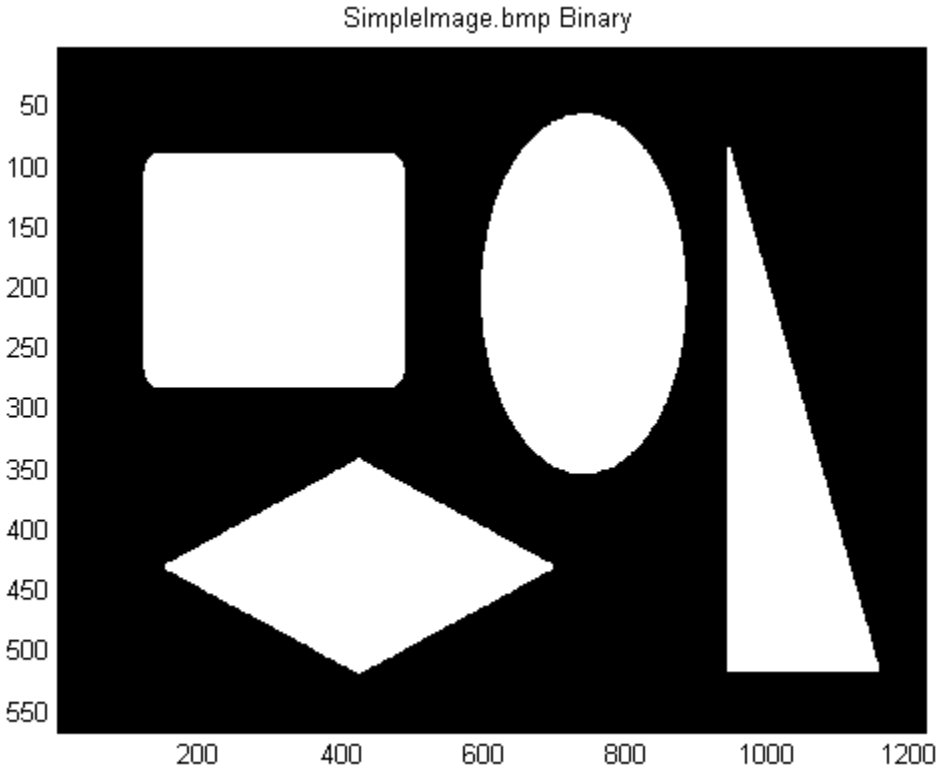
```
disp('3. Thresholding to Segment an Image')
thresholding
```

```
3. Thresholding to Segment an Image


threshold =

   150
```




Histogram of SimpleImage.bmp
x 10^4
6
4
2
0
0
50
100
150
200
250


Histogram of Blank Image
x 10^4
3
2
1
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

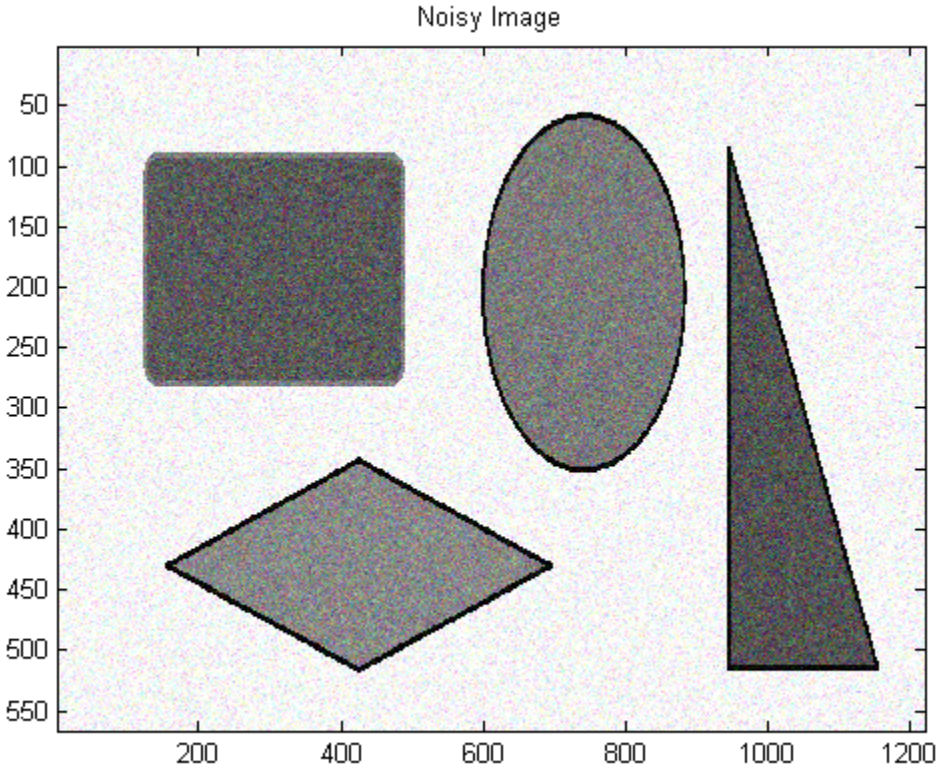

SimpleImage.bmp Binary
50
100
150
200
250
300
350
400
450
500
550
200
400
600
800
1000
1200

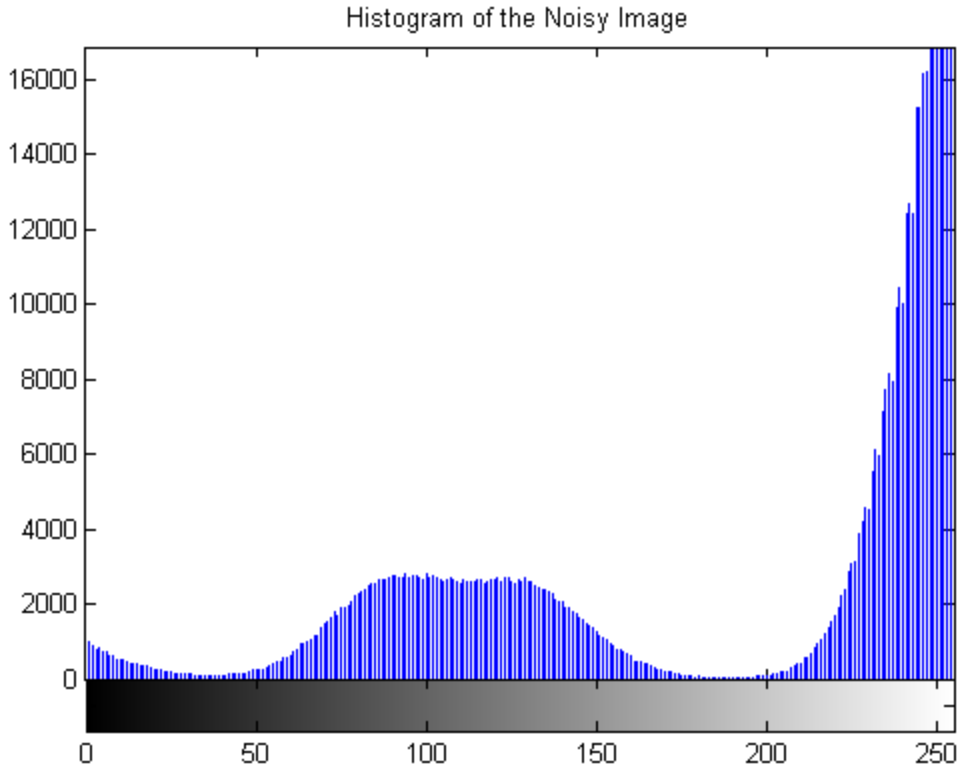
```
disp('4. Segmenting a Noisy Image')
gaussian5
```

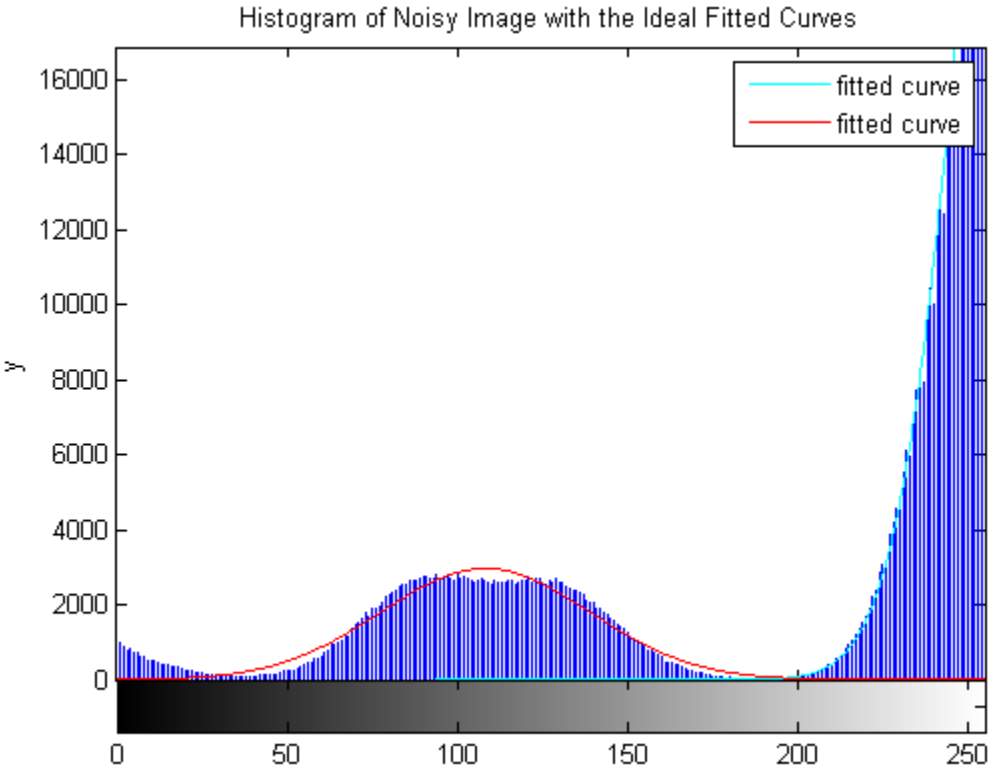
4. Segmenting a Noisy Image

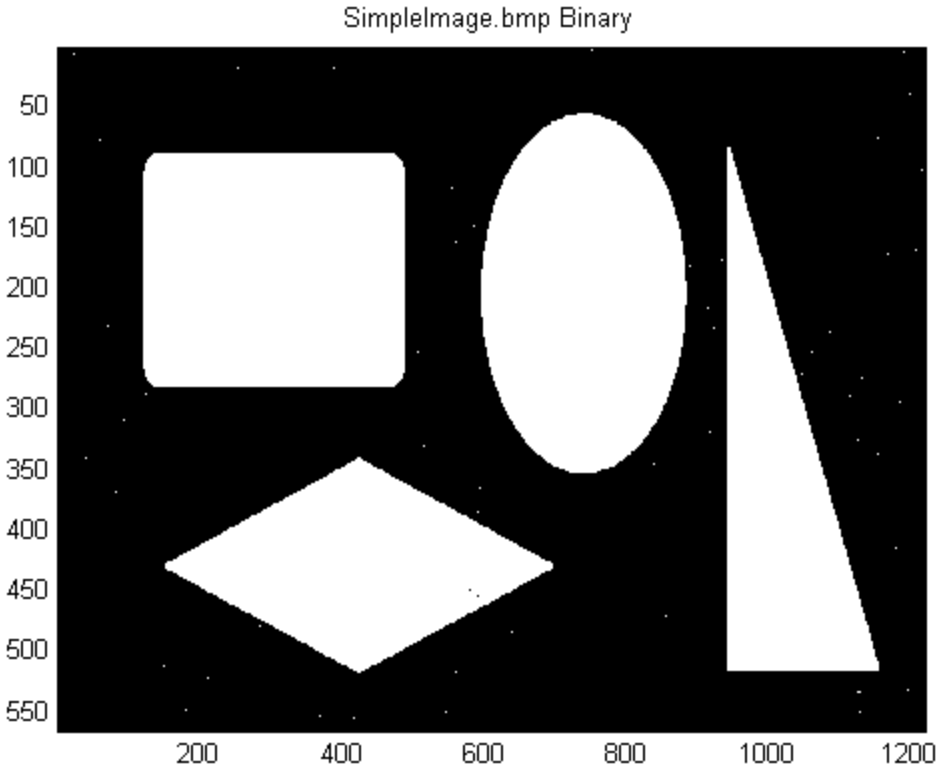
threshold =

198



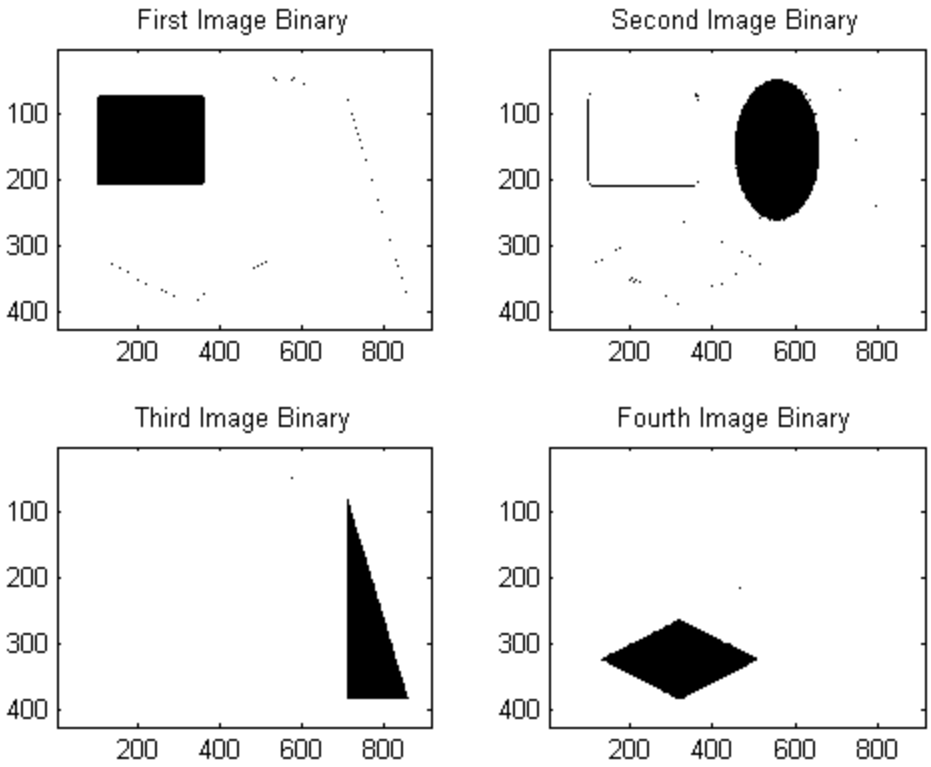

Histogram of the Noisy Image
16000
14000
12000
10000
8000
6000
4000
2000
0
0
50
100
150
200
250


Histogram of Noisy Image with the Ideal Fitted Curves
fitted curve
fitted curve
y
16000
14000
12000
10000
8000
6000
4000
2000
0
0
50
100
150
200
250



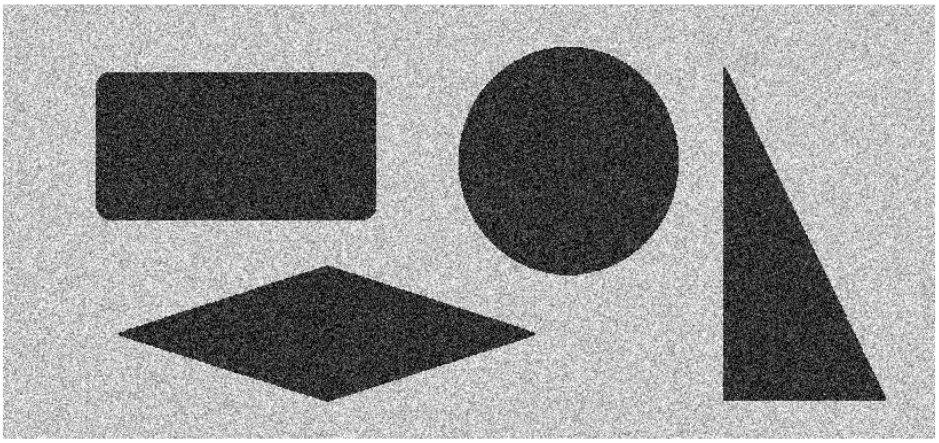

```
disp('Challenge 1')
challenge1_2
```

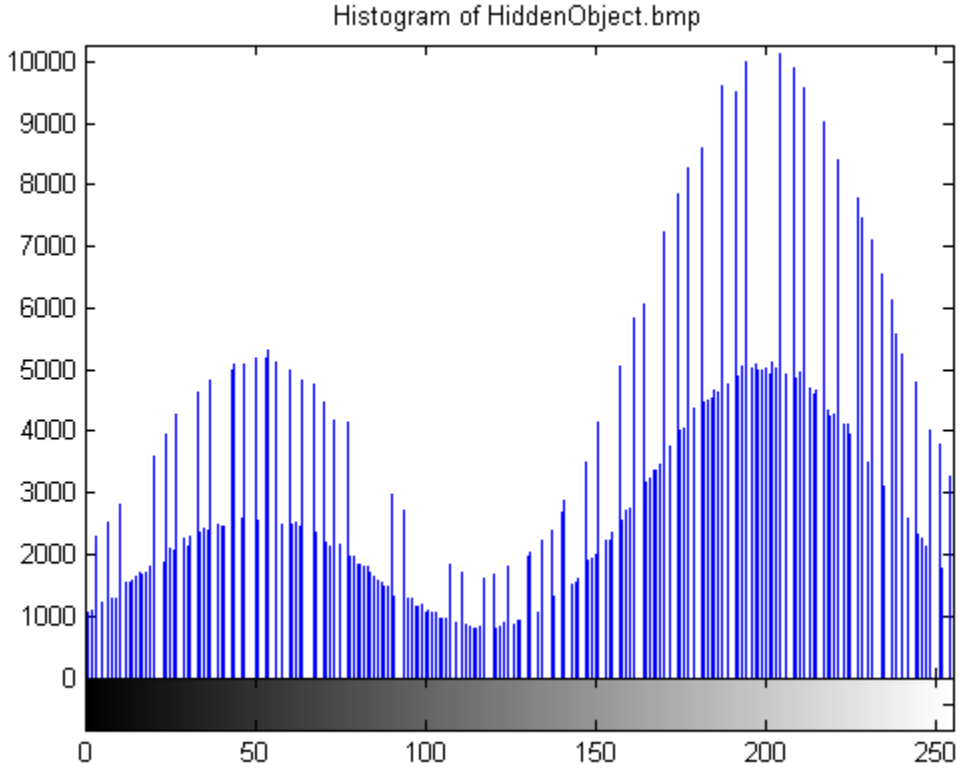
```
        Challenge 1
```

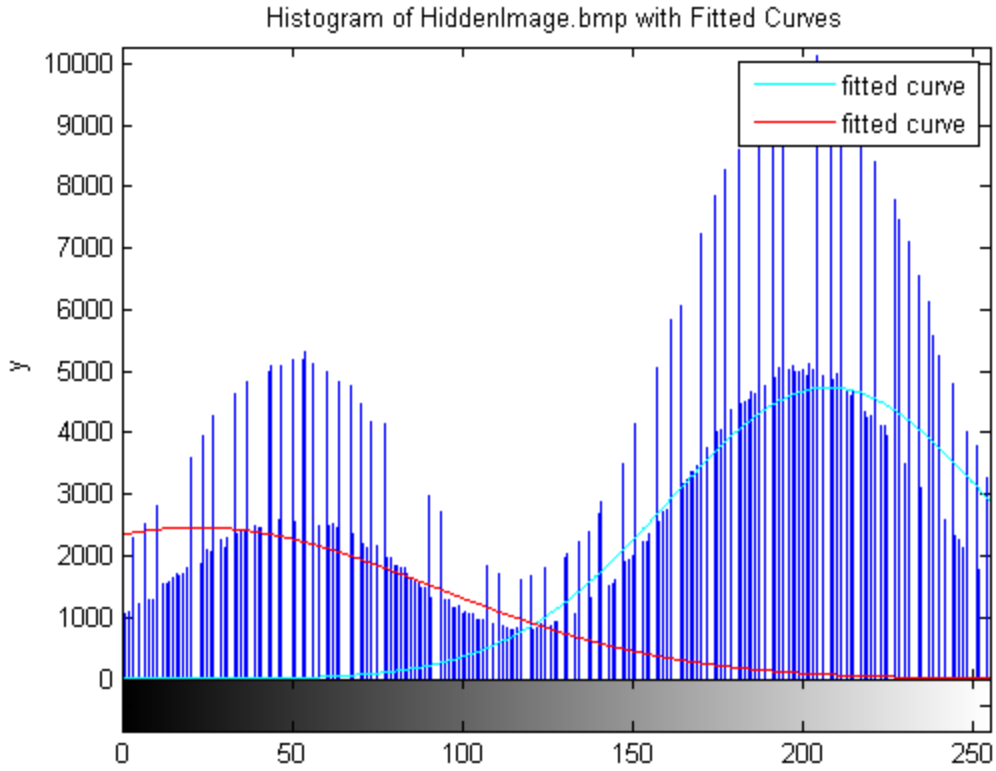


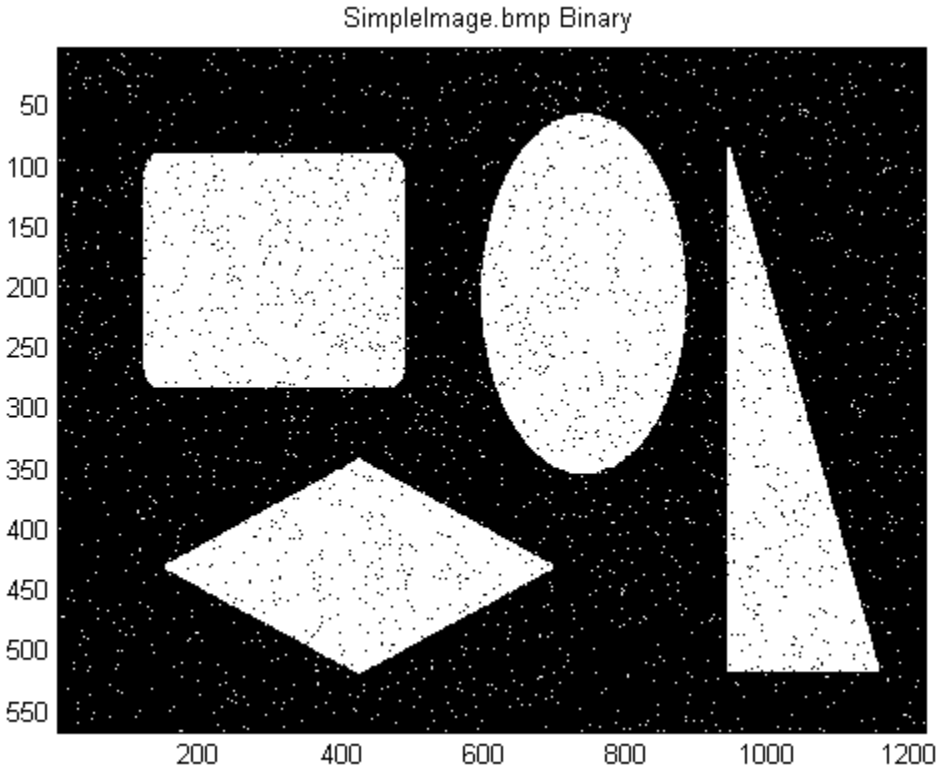

```
disp('Challenge 2')
challenge2
```

```
        Challenge 2
        Warning: Image is too big to fit on screen; displaying at 67%

        threshold =

           122
```




Histogram of HiddenObject.bmp
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0
50
100
150
200
250


Histogram of HiddenImage.bmp with Fitted Curves
fitted curve
fitted curve
y
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0
50
100
150
200
250


SimpleImage.bmp Binary
50
100
150
200
250
300
350
400
450
500
550
200
400
600
800
1000
1200

Published with MATLAB® R2014a