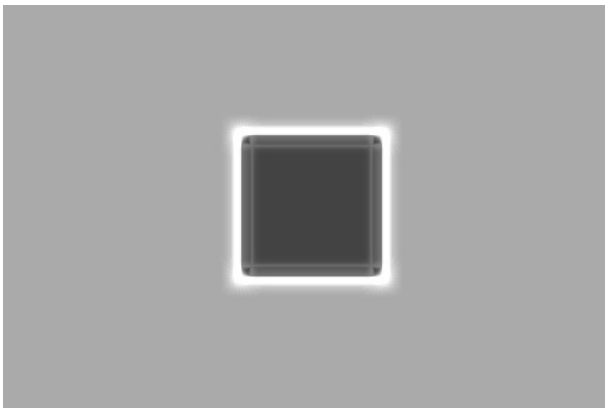
Computational Cognitive Science (CS786), Spring 2019
Indian Institute of Technology Kanpur
Homework Assignment Number 2

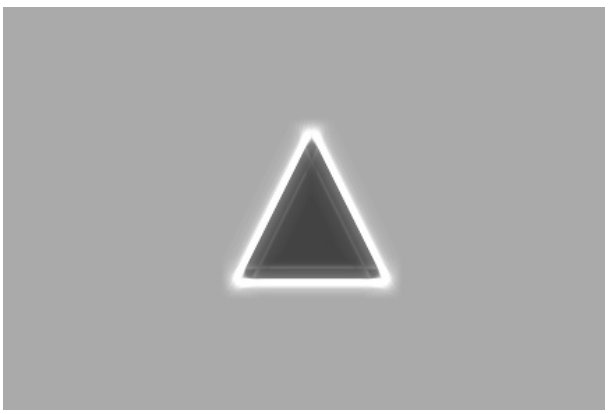
Student Name: Shubham Bharti, Vipin Chillar, Bhavy Khatri
Roll Number: 150 , 150, 150186
Date: March 6, 2019

QUESTION 1

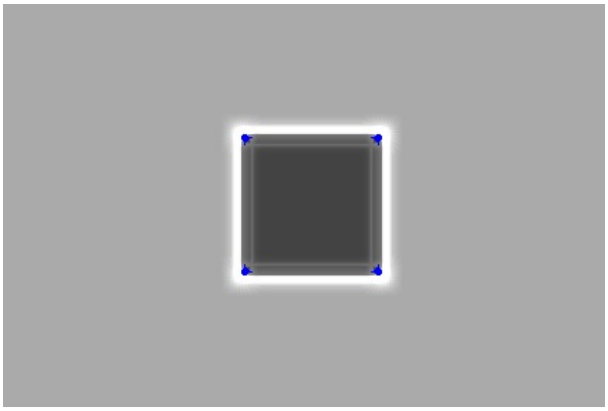
Original images:

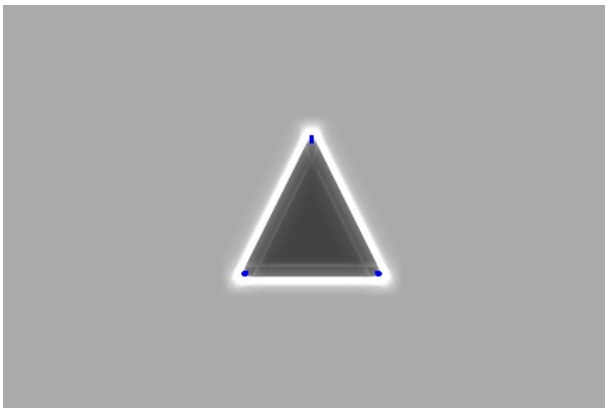
We used bank of 31 gabor filters with varying parameters on top of the grayscaled image. The following results were obtained:





After that to identify the shape we tried to count the corner point. We used harris corner detector to do the same. Blue points represent the corner points. If there are 4 corner points then the shape is square otherwise triangle.



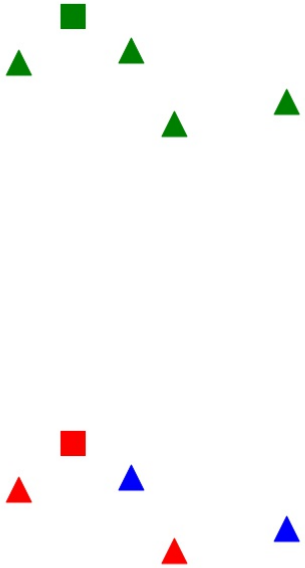


Computational Cognitive Science (CS786), Spring 2019
Indian Institute of Technology Kanpur
Homework Assignment Number 2

Student Name: Shubham Bharti, Vipin Chillar, Bhavy Khatri
Roll Number: 150 , 150, 150186
Date: March 6, 2019

QUESTION 2

In this problem we had to simulate both feature search and conjunction search of feature integration theory. We used matplotlib and opencv library for the same. In feature search we had to consider only one feature that is shape of the object while in case of conjunction search we consider combination of features that is color and shape.For 4 objects the plots are given by:



After that we binary thresholded the image to find the contours and bounding box around that contour.

Individual image frames were also obtained which are given in the folder.

Computational Cognitive Science (CS786), Spring 2019
Indian Institute of Technology Kanpur
Homework Assignment Number 2

Student Name: Shubham Bharti, Vipin Chillar, Bhavy Khatri
Roll Number: 150 , 150, 150186
Date: March 6, 2019

QUESTION
3