# Computer Vision Hw2 Report

* Discription
  + Binarize Lena with the threshold 128
  + draw the histogram
  + connected components with

threshood 500, 4-connected component

* Algorithm
  + Binarize - 取得pixel灰階，若>threshood則設為黑

否則白色。

* + Histogram – 遍歷pixel，計算每個灰階出現的次數。
  + connected components – classical algorithm with

threshood 500, 4-connected component

* Parameters (if any)
  + no
* Principal Code Fragment

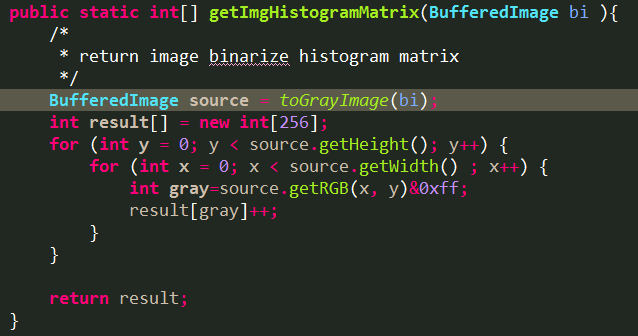
Binarize

(file – /src/cv1.util.cv /ImgUtil.java)



Histogram

(file – /src/cv1.util.cv /ImgUtil.java)



Connected Components

(file – /src/cv1.util.cv.cclabeling/ClassicalAlgorithm.java)

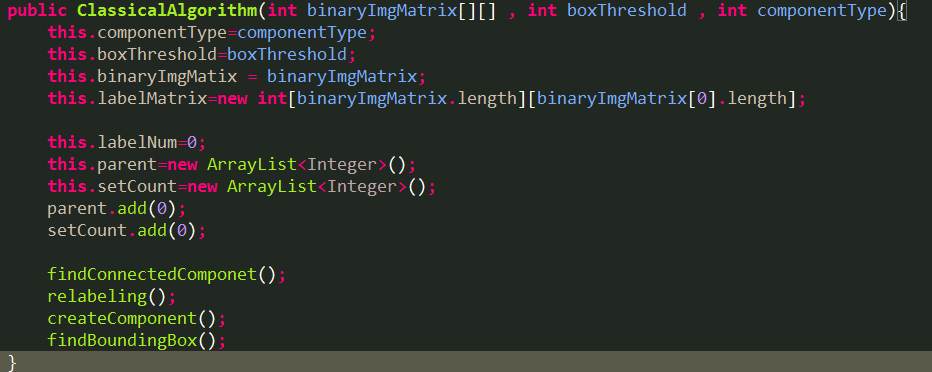
Step1: find connected componet by classical algorithm.

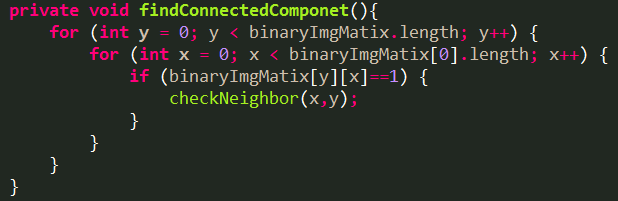
and union set by union-find algorithm

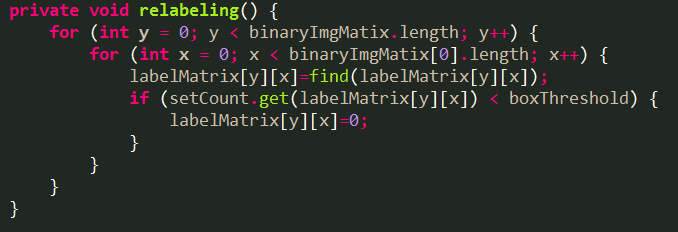
Setp2: relabeling after union all set

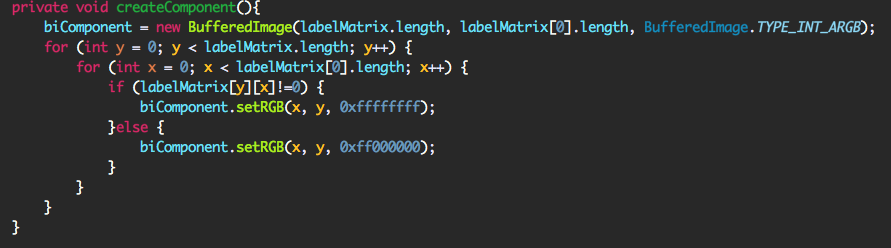
and check threshood

Step3: output component , bounding box and centroid







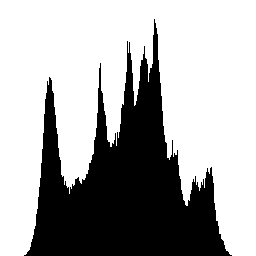


* Resulting Images

Binarize



Histogram



Connected Conponent (threshood = 500 ,4-connected)

