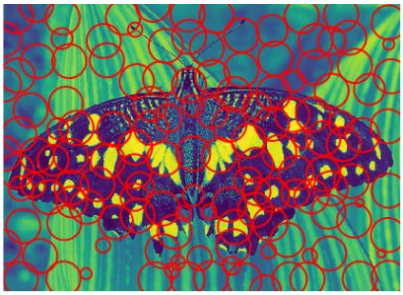
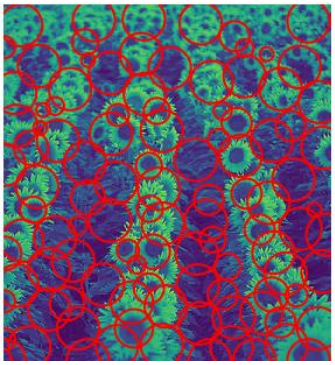
BLOB DETECTION

INPUT – OUTPUT: Laplacian of gaussian output

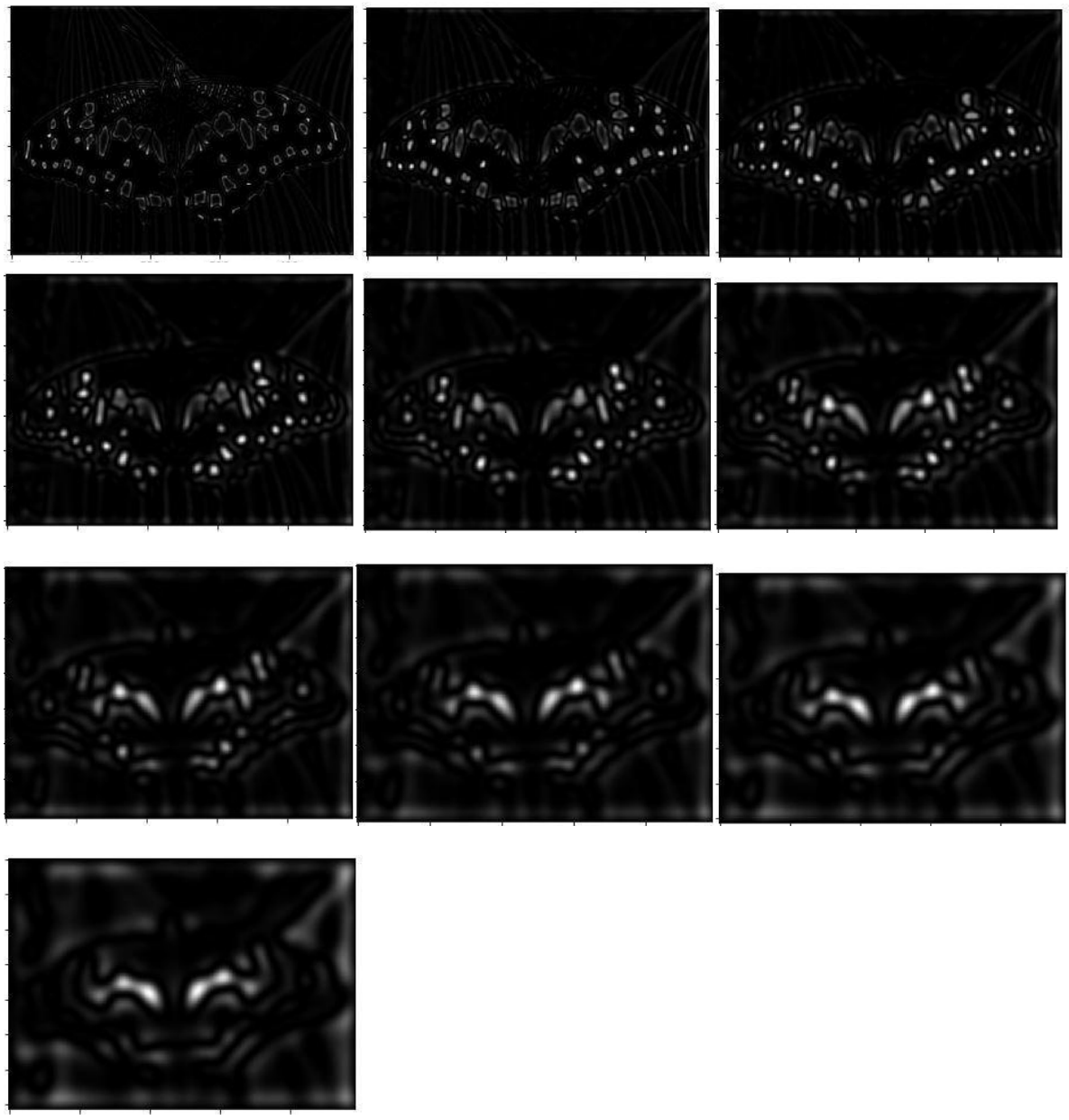





Step 1: convert rgb image to gray scale image.

Step 2: note initial times of both laplacian of gaussian and difference of gaussian

Step 3: function LaplacianOfGaussian() implements Laplacian of Gaussian algorithm. This algorithm consists of convolution of image with scale-normalized laplacian of gaussian of different scales. This results in a scale space image cube .

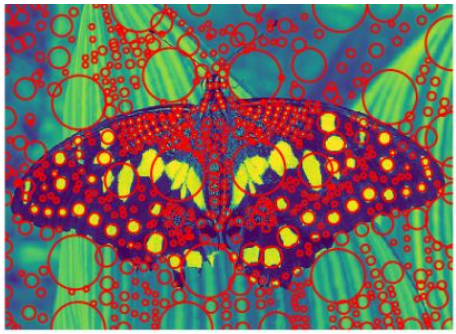


Step 4: Find maxima of squared Laplacian response in scale-space, using non-max suppression.

Bonus:

Instead of using Laplacian of gaussian , difference of gaussian can also be used. Difference of 2 gaussian filters with different standard deviations can be used as filter to convolute with image.

Results:



For butterfly image

LoG time:31.563149452209473

DoG time:1.640730381011963

- Accuracy may change for both algorithms.
- It depends on sigma as well as many other factors but runtime of difference of gaussian is less than runtime of laplacian of gaussian