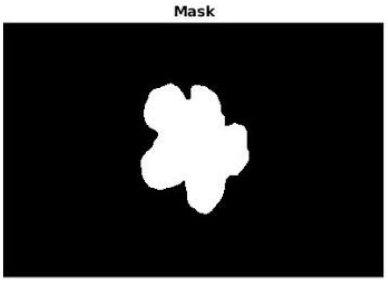
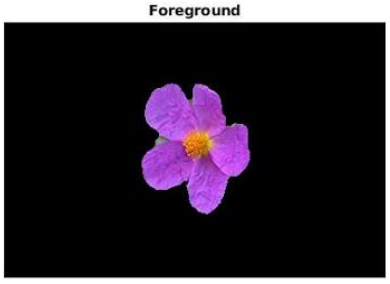
Q1)

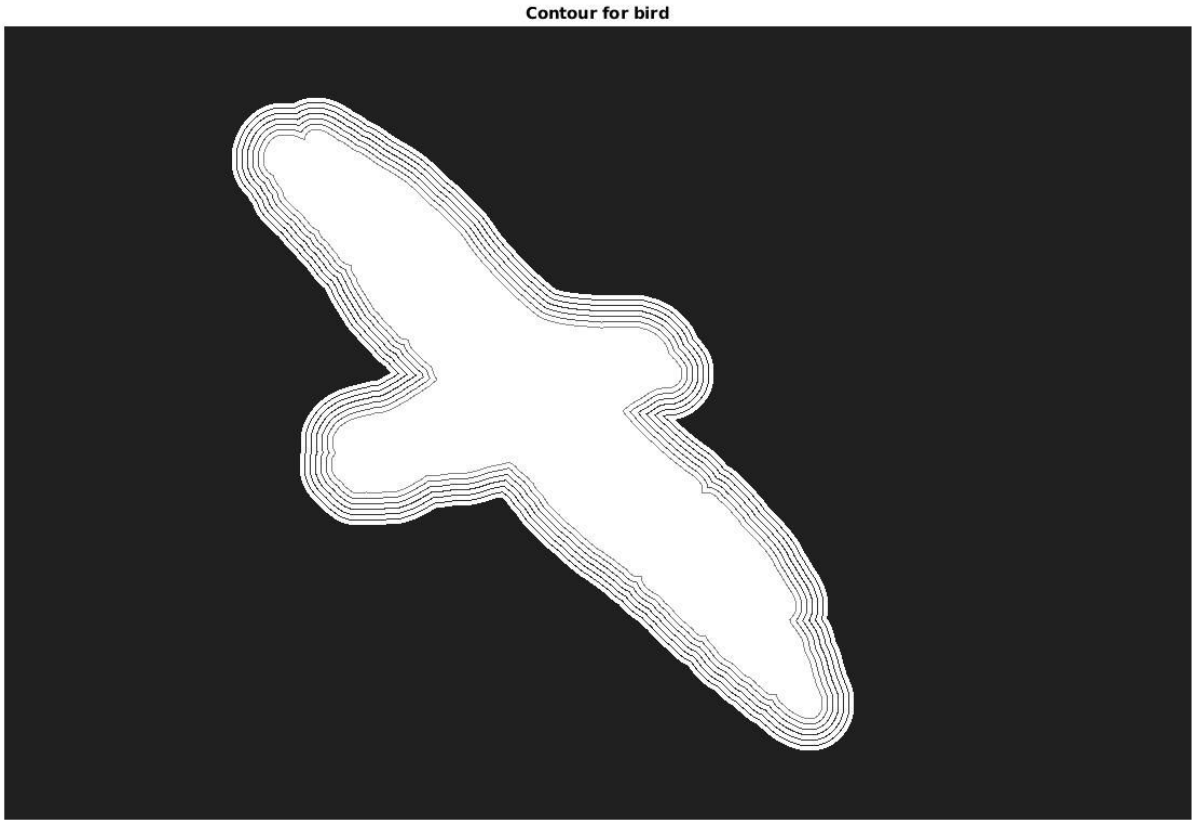
(i) For generation of mask, I have used a threshold of 16 for bird. Starting from an initial pixel value bfs is done for the whole image and the neighbourhood intensities with difference greater than threshold are not added to the queue and hence are identified as background. Others are added to the queue and the process continues.

For flower, first histogram equalization is performed as the intensities near the petal are very close. Then only for the red channel threshold of 3 is selected.

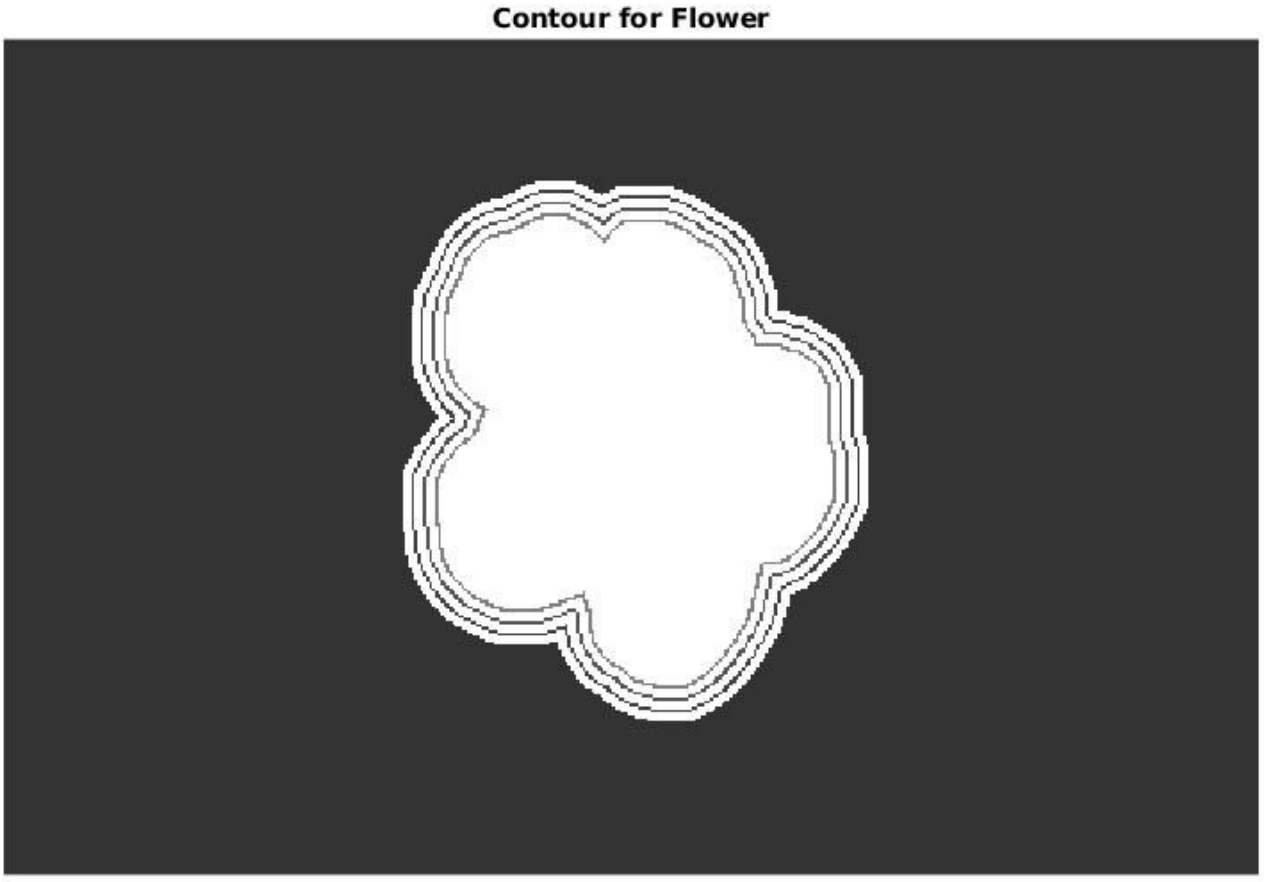




(ii)



These contours are for radius divisible by 5.



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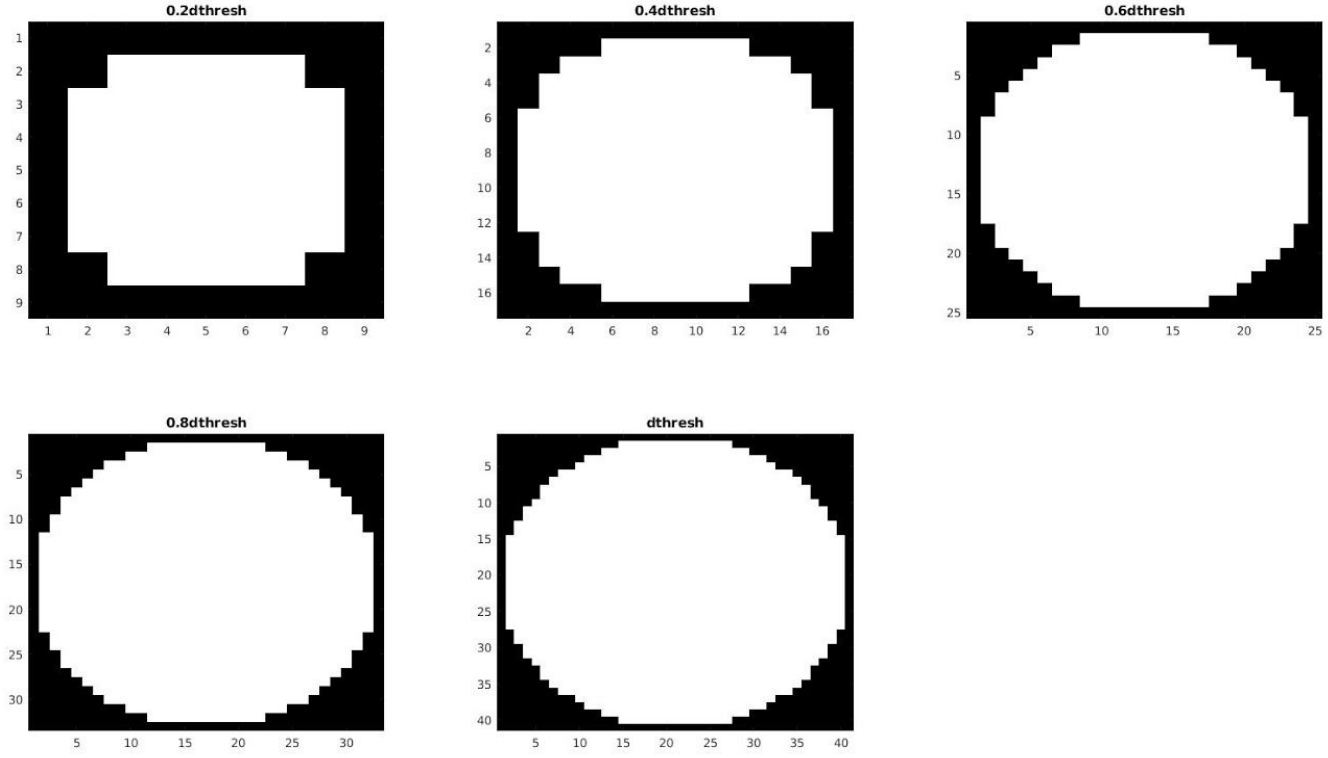
Radius divisible by 4.

(iii)



When this kernel is multiplied to the image only the parts where the kernel is white adds up to give the intensity of the middle pixel.

Here white corresponds to:

Image 1	The intensity for the white patch is 6 and black is 0.
Image 2	The intensity for the white patch is 1 and black is 0.
Image 3	The intensity for the white patch is 1 and black is 0.
Image 4	The intensity for the white patch is close to 0 and black is 0.
Image 5	The intensity for the white patch is close to 0 and black is 0.

(iv)
Bird:-

Flower:-


Blurred Background for flower
50
100
150
200
250
50
100
150
200
250
300
350
400
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0