Q1.

Below are the steps being followed and the corresponding results:

1. Reading the image.
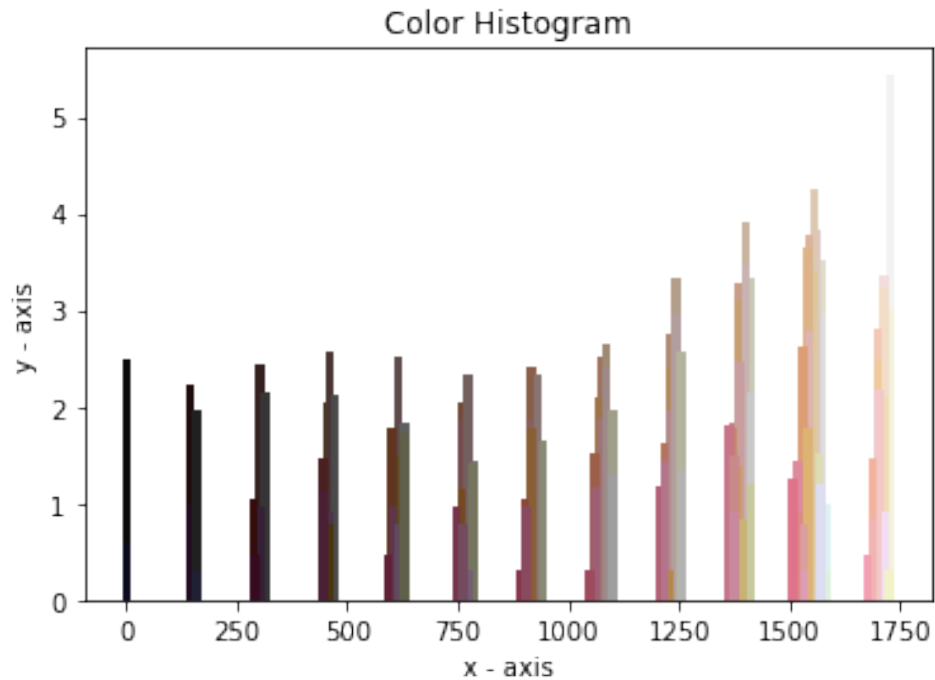

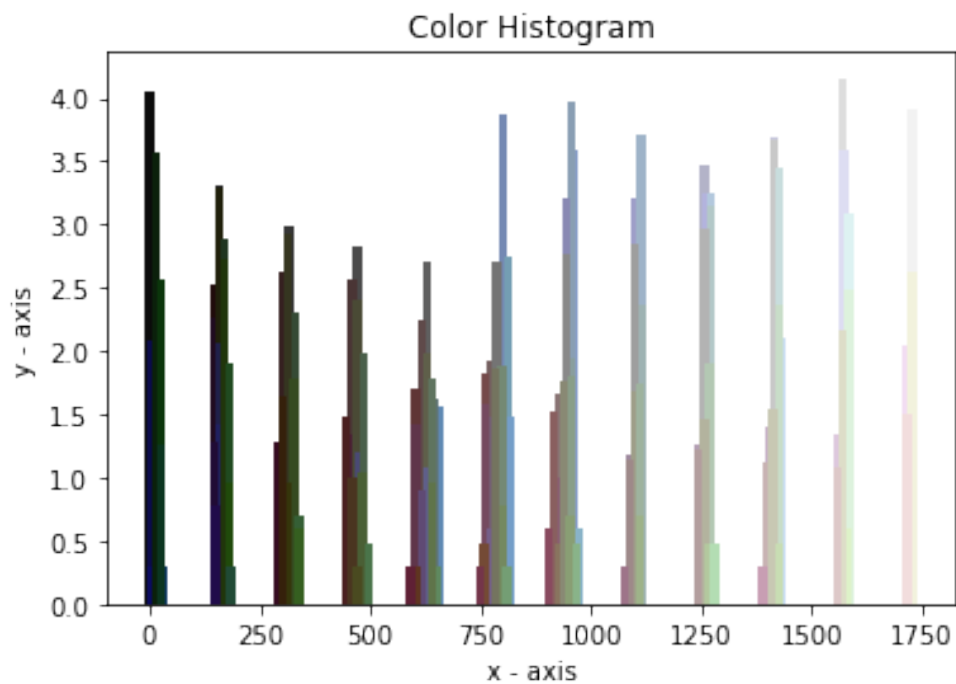**DOG**

MAN

2. Created bins for RGB channel with 12 bins per bin. So total colours came down from 256^3 to 1728.

3. Assigned all the image pixels to these bins.

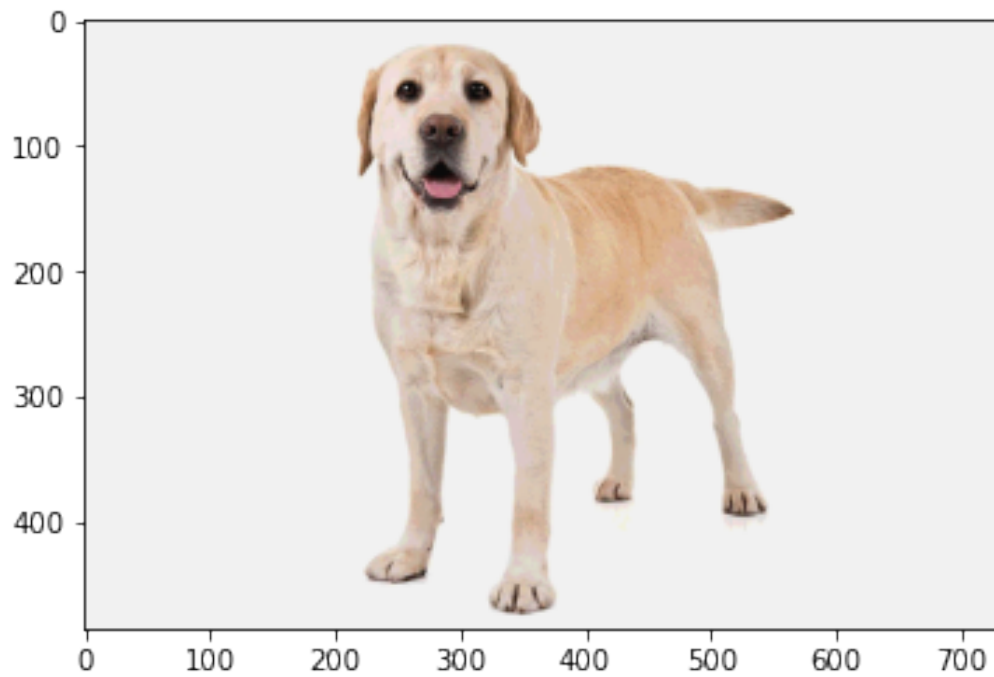4. Created histogram for these 1728 bins with pixels assigned into them.
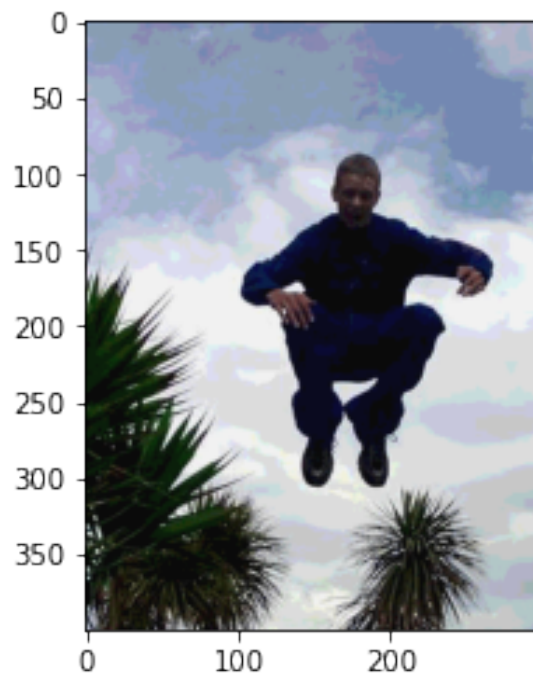

COLOR HISTOGRAM FOR DOG

COLOR HISTOGRAM FOR MAN

5. Top 85 colours have been selected out of the 1728 colours.
6. The remaining bins are assigned to these bins 0f 85 using the KD Tree.
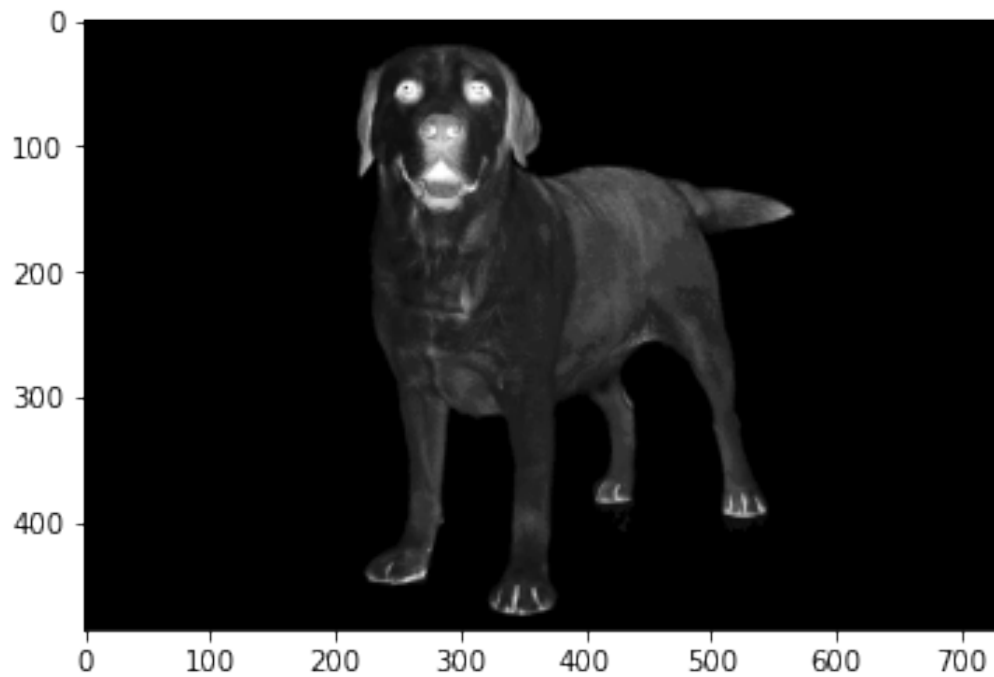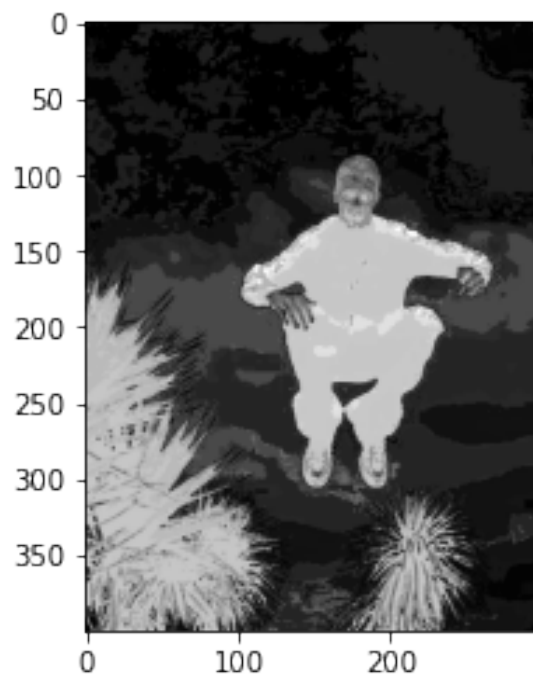7. Reading the image using just these 85 colours.

DOG 85

MAN 85

8. Calculating the saliency values for each bin using the centroid of the bins and assigning this saliency value to each of the pixels of the bins.
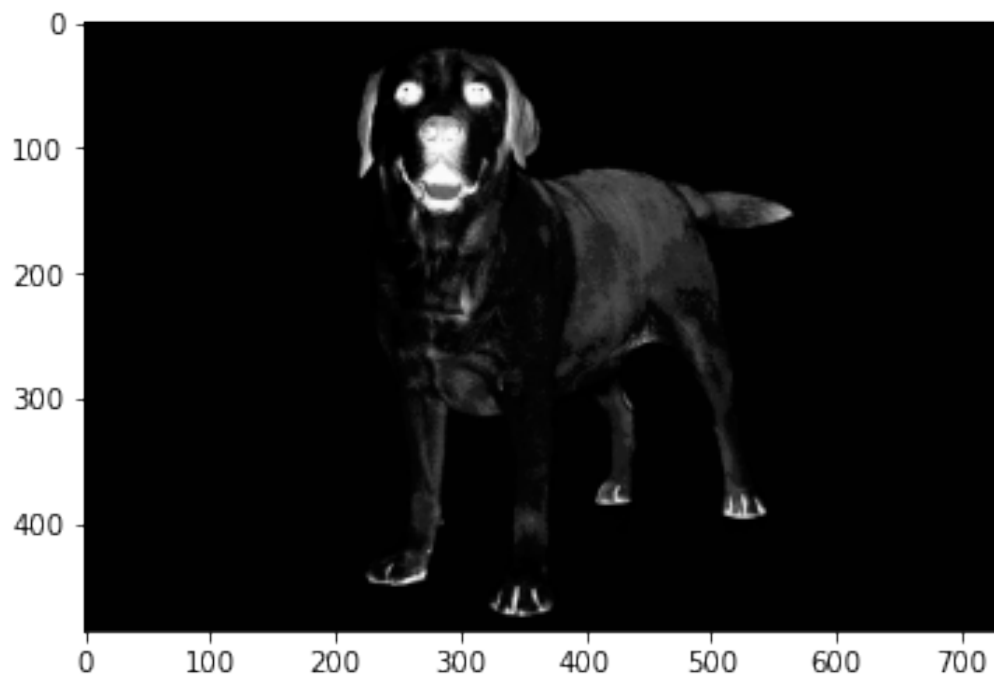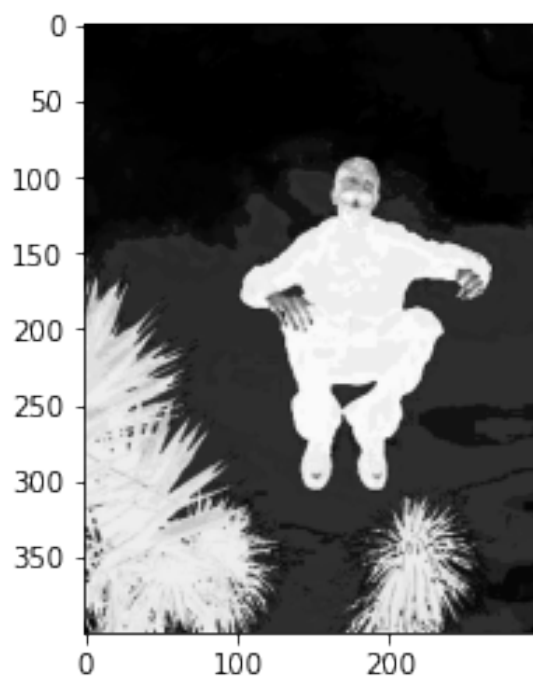

DOG SALIENCY

MAN SALIENCY

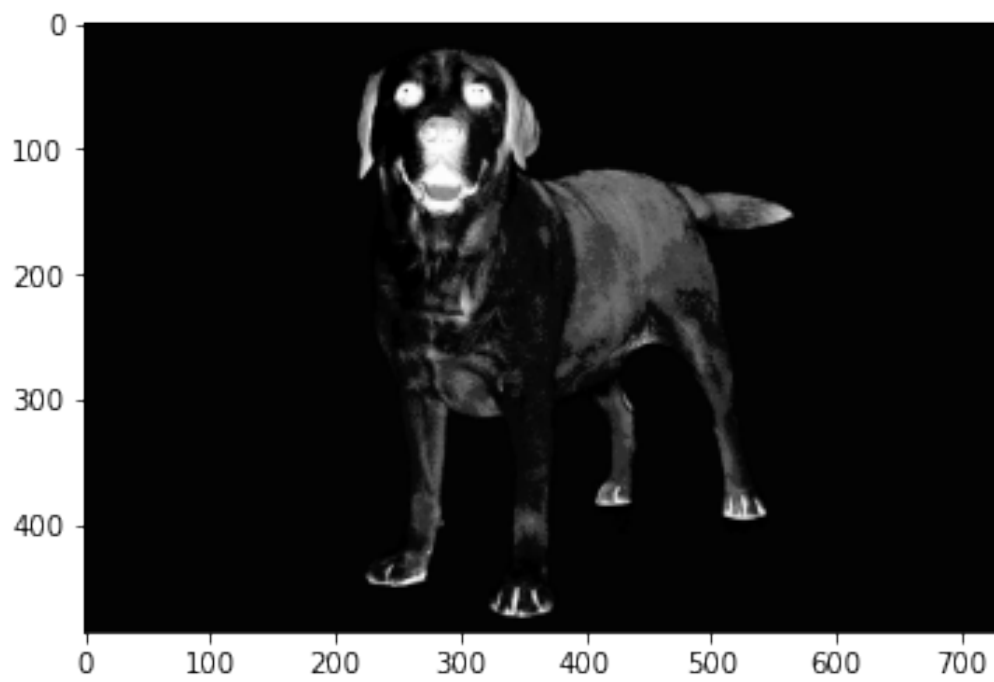9. Smoothing Techniques has been applied to the image to remove the artefacts.
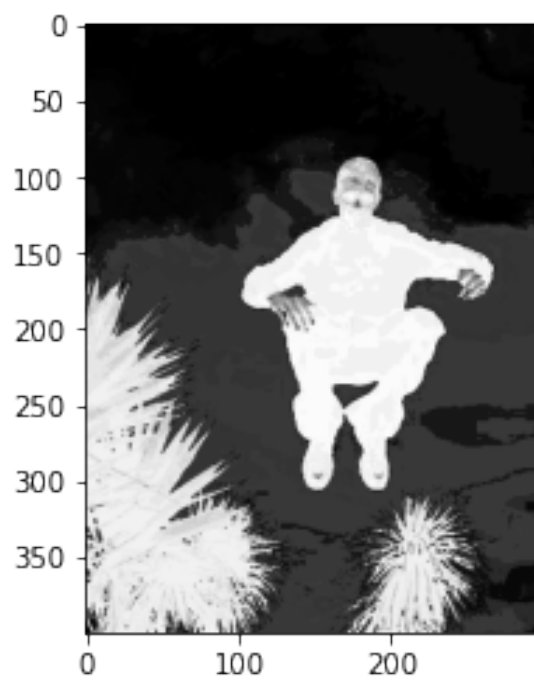

DOG SMOOTHED

MAN SMOOTHED

10.Brightening of the image using the log transformation has been done.

DOG BRIGHTENED

MAN BRIGHTEND

Running the code:

1. Please open the ipynb file attached and used Jupiter notebook to run the code.

2. Both ipnyb and python files have been attached with this README document with outputs and inputs all attached.