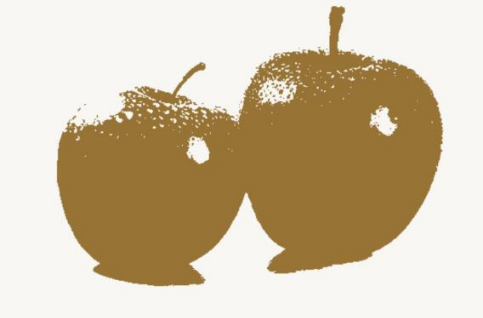
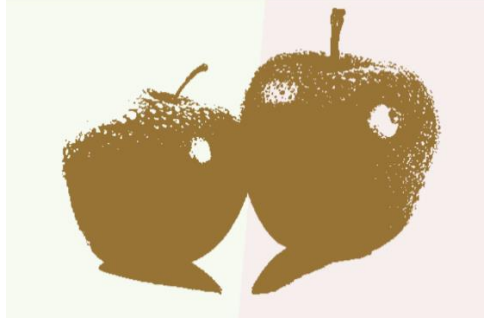




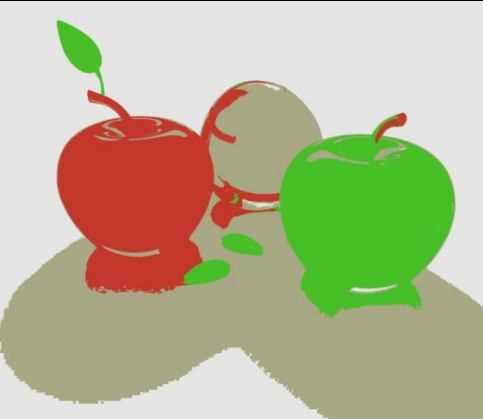



## Segmentation using K-means based clustering

Number of Clusters	3-dimensional color space	5-dimensional space
K=3		
K=5		
K=8		
K=4		

From above table, we can infer that in part A) we are considering the colour space(intensity values) of object only that is it's pixel values in RGB channel so clustering result is based on that. Now, in part B) we are considering an image as a heap of pixels that is each pixel is characterized by its coordinates (spatial information) and colour intensities (R, G, B). So, we are representing pixels in vector form that is in 5D space. The clustering approach applied to the heap of pixels represented as vectors in 5D space. There is difference in both 3D space and 5D space is that 3D colour space only consider pixel values while in 5D one part is relating to object tracking in images(intensities) and the other part is related to spatial/spectral part of segmentation process(position of objects).

Draw a 3D scatter plot for part (A)

