Task 3: The importance of bandwidth

When bandwidth is initialized too large, different segments gets merged into one. The bandwidth controls the size of selected neighbors of a point when calculating the gaussian kernel. When we select it too large, the pixels gets averaged on a greater area, thus it can lead to over-averaging and merge two different segments into one. When the bandwidth was initalized as 1 in the coding task, All the images were segmented into only one segment with the average color of all pixels, which is not the correct answer. While making the bandwidth smaller (from 0.1 to 0000000.1) found the correct segmentation, making it too smaller could have made the kernel be more sensetive to noise. Although, in this task it correctly segmented the image even when the bandwidth was very small (0000000.1).