This programming assignment is concerned with the application of k-means clustering to image segmentation.

The data for this assignment can be found in the directory:
http://www.cs.princeton.edu/courses/archive/fall08/cos429/hw3/scmixedveg.jpg

This is the vegetable color image used to illustrate k-means in the book.
Implement the algorithm in matlab, and use it to segment the image into $k = 5$, $k = 10$, and $k = 20$ parts, using first color only (i.e., using three-dimensional feature vectors recording the $R, G, B$ values at each pixel), then color and position (i.e., using five-dimensional vectors recording $R, G, B$, but also the position $(x, y)$ of each pixel). Display the result by printing, for each experiment, the $k$ regions as so many images, with pixels that are not part of the region of interest left blank.

Submission: Please submit the matlab code and segmentation images to Blackboard (https://blackboard.princeton.edu/).