Project #6

assign December 21, 2020 due December 26, 2020

A robotic arm is implemented in fruit picking. Consider the color image**, fruit on tree.tif** below, (a) apply Otsu's optimal global thresholding (single threshold) to R component, and (b) apply K-means clustering using T = 1, 5 and 10 to the full-color image (RGB) to extract the plums (dividing into 2 clusters).

Your report (Word or pdf format) should contain:

- Source codes (30%)
- Plot of the curve of between-class variance depending on all possible threshold values (20%)
- Image of patterns extracted by Otsu's algorithm (plotted in the same way as the color-slicing example shown below) (20%)
- Images of patterns extracted by K-means clustering with different threshold values (plotted in the same way as the color-slicing example shown below) (30%)

Note: Images must be plotted with good resolution.

Upload your report to new e3 before due time!