Sheet#6 Decision Trees

1. Written Problems:

Answer exercises
Q2, Q3, Q5 from the book.
pages 495, 496

2. Coding

a. Use the Face-data set we used in Assignment 1. Use the 50-50 Split for train-test split.
b. **Implement your** Decision Trees Classifier. Use Information Gain as a splitting measure.
c. Apply your algorithm on the first 50 ,100 and 150 components using PCA separately.
d. Compare and comment on the results
e. Use the Random Forest classifier in Scikit learn. Use Original Data
   i. Tune the number of trees {10,30,100,300}
   ii. Tune the tree criterion "gini" vs. "Entropy"
f. Repeat part (e) using the 100 PC's in part (c).