Problem Set 03

1. Computer (6p)

Build a decision tree (by hand) based on the following data and using information theory. Then use WEKA to see if you get the same decision tree (ID3). Use this tree to decide if Edward, the senior student, would buy a new PC with his high income and good credit rating.

Sample	Attributes				Buy new Computer
	Age	Income	Student	Credit rating	
S01	Youth	High	No	Good	No
S02	Youth	High	No	Excellent	No
S03	Middle-aged	High	Yes	Good	Yes
S04	Senior	Medium	Yes	Good	Yes
S05	Senior	Low	Yes	Good	Yes
S06	Senior	Low	Yes	Excellent	No
S07	Middle-aged	Low	Yes	Excellent	Yes
S08	Youth	Medium	No	Good	No
S09	Youth	Low	Yes	Good	Yes
S10	Senior	Medium	Yes	Good	Yes
S11	Youth	High	Yes	Excellent	Yes
S12	Middle-aged	Medium	No	Excellent	Yes
S13	Senior	Medium	No	Excellent	No
S14	Middle-aged	High	Yes	Good	Yes