

EECS 837

Homework Assignment # 3

due: October 24, 2019

- 25 pts. 1. Prove that $H(X, Y) = H(X) + H(Y|X)$. Do not assume independence of X and Y.
2. Discretize the following decision table

	Attributes				Decision
	Length	Height	Width	Weight	Quality
1	4.7	1.8	1.7	1.7	high
2	4.5	1.4	1.8	0.9	high
3	4.7	1.8	1.9	1.3	high
4	4.5	1.8	1.7	1.3	medium
5	4.3	1.6	1.9	1.7	medium
6	4.3	1.4	1.7	0.9	low
7	4.5	1.6	1.9	0.9	very-low
8	4.5	1.4	1.8	1.3	very-low

using

- 25 pts. a) Dominant Attribute approach based on conditional entropy,
- 25 pts. b) Multiple Scanning approach based on conditional entropy (a single scan),
- 25 pts. c) Globalized Equal Frequency per Interval method.