

Names: _____

CS Logins: _____

Worksheet #13

Decision Trees

As always, sit with a partner and work through these together.

Activity 1: Evaluating a Decision Tree

Classify the two following examples with the decision tree on the slides

Input Attributes									
Alt	Bar	Fri	Hun	Pat	Price	Rain	Res	Type	Est
Yes	No	No	Yes	Full	\$	No	No	Thai	30-60
Yes	Yes	Yes	Yes	Full	\$	No	No	Burger	30-60

Example #1: _____

Example #2: _____

Activity 2: Compute the information gain of the Price attribute (on the entire training data)

Entire training data has: 6 Yeses and 6 Nos

Subset of examples with price = \$ has: 3 Yeses and 4 Nos

Subset of examples with price = \$\$ has: 2 Yeses

Subset of examples with price = \$\$\$ has: 1 Yes and 2 Nos

Entropy of the entire training data: _____

Entropy of \$: _____

Entropy of \$\$: _____

Entropy of \$\$\$: _____

Remainder of price attribute: _____

Information gain of price = "entropy of entire training data" - "remainder of price"

Information gain of price = _____

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Information gain of price = _____