

CS360 Homework 4

Semantic Networks

- 1) Exactly how can a computer determine that the sentence “I keep my money in the bank” refers to a financial institution rather than the land alongside a river. In this context, explain also what spreading activation is.
- 2) What are advantages and disadvantages of using semantic networks for knowledge representation over using first-order logic?

Decision Trees

- 3) Assume that you have the following training examples available:

	F1	F2	F3	F4	F5	Class
Example 1	t	t	f	f	f	p
Example 2	f	f	t	t	f	p
Example 3	t	f	f	t	f	p
Example 4	t	f	t	f	t	p
Example 5	f	t	f	f	f	n
Example 6	t	t	f	t	t	n
Example 7	f	t	t	t	t	n

Use all of the training examples to construct a decision tree. In case of ties between features, break ties in favor of features with smaller numbers (for example, favor F1 over F2, F2 over F3, and so on).

How does the resulting decision tree classify the following example:

	F1	F2	F3	F4	F5	Class
Example 8	f	f	f	t	t	?