**Ai Take away cat**

1.Explain briefly (2 or 3 sentences each) the difference between:   
A. Depth-first search and iterative deepening search.   
B. State space search and game tree evaluation.   
C. Top-down parsing and bottom-up parsing.   
D. A perceptron and a feed-forward, back-propagation neural network.

2. Consider the sentence "Hammers are for driving nails into surfaces." Name two words in this sentence that are lexically ambiguous. (There are at least four.) For each of these two words, describe a disambiguation technique which will choose the right interpretation over at least one of the wrong interpretations. Be specific.

3. Consider the following inference: Given the rules and facts,

R1: If X is a close relative of Y and Y is a close relative of Z then X is acquainted with Z.   
R2: If X is a parent of Y, then X is a close relative of Y.   
R3: If X is married to Y, then X is a close relative of Y.   
F1: Sam is a parent of Mike.   
F2: Mike is married to Alice.

Infer that Sam is acquainted with Alice.

4. In computer vision, techniques for using stereo vision are in some ways similar to techniques for dealing with images of a fixed scene by a moving camera. What are the similarities? What are the differences?