

Assignment 5
(Due date: 11/13/2008/Thursday, in class)

Your name:	Date:
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Provide very brief answers to the following Artificial Intelligence questions (check Chapter 11 of the textbook (particularly, its section questions/solutions) and lecture slides for solutions):

1. What is agent in the research area of AI? Provide an example.
2. Identify several types of “intelligent” actions that might be made by an agent.
3. What is procedural knowledge? What is declarative knowledge?
4. Briefly describe the components of a Production System.
5. Briefly explain how heuristic algorithm works by using the following eight-puzzle example.

1	2	3
4		8
7	6	5

6. We have introduced four different machine learning methods. What are they? Provide a short explanation for each of them.
7. Draw the search tree that is generated by the algorithm of Figure 11.10 (available from the lecture slides) in an attempt to solve the eight-puzzle from the following start state, assuming the heuristic used is the same as that developed in the textbook:

1	2	3
5	7	6
4		8

===== **Important Notes** =====

- Homework can be hand-written or typewritten.
- Put all your solutions in the same order as the above questions.
- Use this question paper as **cover page and staple them together**.
- The solution processes are *not* required in your submission, **but** may help you get some credits even if your solutions are wrong. (The solution and its solution process should **NOT be separated** by other questions).