

- The appeal of logic as knowledge representation
- Logic as "applied AI"
- Styles of working with logic

Automated theorem proving  
Automated proof checking  
Logic programming

## **Propositional Logic**

- Only "atomic" propositions (P, Q, etc.) with binary truth values
- Connectives AND, OR, NOT, IMPLIES
- Values of sentences are determined as functions of the truth values of individual propositions.
- Rules of inference: modus ponens, commutativity, etc.
- Standard issues in propositional logic: satisfiability, contradiction, tautology, implication, equivalence.

## Solving Problems in Propositional Logic

- Satisfiability is a search problem (and is NP-complete)
- Brute force: truth table method
- Strategies: most constraining variable, heuristic repair