

CS 230
Programming Languages

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Today's Topics

- Questions? / Comments?
- Chapter 16
 - Prolog
 - Example programs in bprolog

Prolog

- Some more prolog
- Comparison
- $<$, $>$, $<=$, $>=$ $\backslash==$
- write
- nl
-
- Also `_` is an anonymous variable --- when you don't need to use it in the rule

Prolog

- **Fail**
- Can be used (as a subgoal) to force a goal to fail, thus forcing backtracking.
- Only makes sense as the last subgoal of a goal (because any subgoals after it would never get tested.)

Prolog

- Let's look at a couple of programs I have ready to show you.
 - factorial
 - can buy
- Let's write a towers of hanoi solver together

Prolog

- Applications of Logic Programming
 - For relational databases, SQL is non procedural
 - Databases / tables could be described by prolog structures
 - Relationships between tables can be described by prolog rules
 - Retrieval from a database is related to resolution
 - Goals in prolog are like queries in relational databases
 - Expert systems – emulate human expertise in some domain
 - Natural language processing – describe syntax related to CFGs, semantics can possibly be made clear with logic programming