

CS 2710, ISSP 2610

Chapter 12

Knowledge Representation

KR

- Logic chapters: syntax, semantics, and proof theory of propositional and first-order logic; associated knowledge-based systems
 - Theorem provers
 - Prove sentences in FOL. Use inference rules, resolution rule, and resolution refutation
 - Forward and back chaning for KBs in Horn form
- Chapter 12:
 - what content to put into an agent's KB, i.e., how to represent knowledge of the world
 - special purpose representations, e.g. semantic networks and description logics

Natural Kinds

- Some categories have strict definitions (triangles, squares, etc)
- Natural kinds don't
- Define a cup (distinguishing it from bowls, mugs, glasses, etc)
- Bachelor: is the Pope a bachelor?
- But logical treatment can be useful (can extend with typicality, uncertainty, fuzziness)