

INTELLIGENT AGENTS

AIMA CHAPTER 2, 2ND ED. (AFTER RUSSELL AND NORVIG)

AIMA Chapter 2, 2nd Ed. (after Russell and Norvig) 1

Outline

- ◇ Agents and Environments
- ◇ Rationality
- ◇ Environment Specification and Types
- ◇ Agent Functions, Programs, and Types

AIMA Chapter 2, 2nd Ed. (after Russell and Norvig) 2

Agents Interact with Environments

Must first specify the setting for intelligent agent design

An *agent* perceives its *environment* through *sensors* and acts upon it through *actuators*

Example Sensors and Actuators

Humans??

Robots??

Softbots??

Example Sensors and Actuators

Humans?? eyes and ears / hands and legs

Robot?? cameras / motors

Softbot?? keystrokes / displays

Agents and Environments (cont.)

Mathematically, an *agent function* maps any percept sequence to an action (and thus describes behavior)

- percepts: agent's perceptual inputs at any instance
- percept sequence: complete history
- action: an agent's action choice at any instant can depend on the entire percept sequence

Problematic from an implementation perspective (why?), so need *agent programs*