AGENTS – Black Box

ENVIRONMENT

Input | | Output
Stimulus ---> | | ---> Response
Percept | | Action

(through sensors) (through effectors)

- Goal
- Performance measure: Criteria to determine how successful an agent is.

An agent may be:

**Rational:** does the right thing.

**Omniscient:** does the perfect thing.

**Ideal:** does the optimal thing given its state of knowledge.

**Autonomous:** Initial kn. + ability to learn.
Agents

• **Type of Agents:**
  – Simple reflex agents
  – Model-based reflex agents (keep track of the world)
  – Goal-based agents
  – Utility-based agents
  – Learning agents

• **Agents are expected to:**
  – **Achieve goals:** search and planning
  – **Sense environment:** machine vision, NLP
  – **Be autonomous:** machine learning
  – **Store knowledge:** knowledge representation
AGENTS – Inside the Black Box

ENVIRONMENT

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Input | MAPPING | Output
Stimulus ---> | / | ---> Response
Percept | FUNCTION | Action
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(through sensors) (through effectors)

• This mapping/function is implemented using a program that runs on an architecture.