

Chapter 2 Agent

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1 Agent and Environment

Anything that perceives its environment through sensors and acts upon that environment using actuators is called an agent.

We use the term perception to refer to what an agent's sensors are sensing. Generally, the choice of action an agent makes at any given moment may depend on its built-in knowledge and the entire sequence of perceptions it has observed so far.

2 Rational Agent

- Performance Measure
- Rational
 1. A performance measure that defines the criteria for success.
 2. The agent's prior knowledge about the environment.
 3. The actions the agent can perform.
 4. The percept sequence the agent has observed so far.

3 Task Environment

- PEAS (Performance, Environment, Actuator, Sensor)
- Property
 1. fully observable and partially observable
 2. single-agent and multiagent
 3. deterministic and nondeterministic
 4. episodic and sequential
 5. static and dynamic
 6. discrete and continuous
 7. known and unknown

4 Structure

Agent = Architecture + Program