Agent is a model that takes actions in an given environment. Agent program is used to define the action of the agent, usually with if statements.

책

Agent: Anything that can be viewed as perceiving its environment through sensors and acting upon that environment through actuators. (체그) An agent is something that acts. An agent acts on behalf of a person. It is an entity that acts in response to the environmental issues.

Agent function: Agent’s behavior is described by the agent function that maps any given percept sequence to an action. (체) Agent function is the action performed by an agent in response to the environmental issues.

Agent program: Internally, agent function for an artificial agent will be implemented by an agent program. It’s important to keep these two ideas distinct! (체) The agent program implements the agent function

A rational agent is one that does the right thing. What is a right thing? -> consequences of the agent’s behavior, desirability captured by a performance measure that evaluates any given sequence of environment states.

Rationality: What is rational at ­­­­­­any given time depends on four things –

1. The performance measure that defines the criterion of success
2. The agent’s prior knowledge of the environment
3. The actions that the agent can perform
4. The agent’s percept sequence to date

Rationality maximizes expected performance, while perfection maximizes actual performance. Information gathering, which means doing actions in order to modify future percepts, is an important part of rationality. (체그) The property of an agent that chooses action to be performed.

Autonomy: to the extent that an agent relies on the prior knowledge of its designer rather than on its own percepts, we say that the agent lacks autonomy. A rational agent should be autonomous- it should learn what it can to compensate for partial or incorrect prior knowledge. Ability to learn! => After sufficient experience of its environment, the behavior of a rational agent can become effectively independent of its prior knowledge. (체그) Autonomy is a property of an agent being itself and making decisions of its own.

Reflex agent: (체그) A reflex agent is an agent which selects actions on the basis of current percept.

Model-based agent (체그) An agent that uses the model of the world is called as a model-based agent. The knowledge about “how the world works” is called a model of the world.

Goal-based agent (체그) Goal-based agents are model-based agents which sorts goal information that describes situations

Utility-based agent (체그) This is an agent that uses an explicit utility function that maximizes the expected utility.

Learning agent (체그) This is an agent that improves its behavior based on its experiences and learning.