

Define in your own words the following terms: agent, agent function, agent program, rationality, autonomy, reflex agent, model-based agent, goal-based agent, utility-based agent, learning agent.

Agent: Something that acts. Usually perceives through some sensors.

Agent function: An abstract description of agent behavior that maps each possible percept sequence to an action.

Agent program: A concrete implementation of an agent function.

Rationality: Doing the right thing given the observation, the goal, the actions possible.

Autonomy: The degree to which an agent depends on its own learning and improvement rather than designer given explicit knowledge.

Reflex agent: Agent that selects actions purely based on the current percept.

Model-based agent: Agent that maintains an internal state using a transition and sensor model and uses the internal state along with the current percept to determine actions.

Goal-based agent: Agent that maintains a goal state description and uses it to determine actions, usually combined with an internal state similar to model-based agent.

Utility-based agent: Agent that has an internal version of performance measure, namely the utility function, and uses it to determine actions.

Learning agent: Agents whose components can be improved through learning thereby improving the agent's performance.