**Properties of the task environment (summary)**

* **Fully observable vs. Partially observable**

A task environment is effectively fully observable, if the agent’s sensors are able to detect all the aspects that are relevant to its choice of action.

* **Deterministic vs. stochastic**

If a *next state* of the environment is completely determined by an agent, and any variations are excluded, then the environment is deterministic. Otherwise, it is stochastic.

* **Episodic vs. sequential**

Episodic environment is divided into atomic episodes, each of which consist of agent perceiving and performing a *single* action. Next episode is independent from actions taken in the previous episode. In contrast, in sequential environment, each decision can *affect* all the future decisions.

* **Static vs. Dynamic**

If an environment is*changing* while an agent is deliberating, then it is dynamic. Static environments does not change over time. **Semidynamic** environments does not change, but an agent’s performance score does.

* **Discrete vs. Continuous**

Describes a *state* of the environment, the way *time*is being handled, and to the *percepts* and *action* of an agent. Chess game is discrete (finite number of states, discrete set of actions). Taxi driving is continuous.

* **Single agent vs. multiagent**

Either an agent is acting in the environment solely, or engage into certain relationships with other agents, distinguishing them from other objects of the environment (by identifying that its own perormance depends on other agent’s performance). Multiagent environment can be *competitive, cooperative,*or *partially both*.