

# Artificial Intelligence

## Chap 2 – Intelligent Agents

Sep 27, 2023

### Objectives

Practice and get familiar with the subject matters in Chap 2.

### Questions

1. For each of the following agents, develop a PEAS description of the task environment:
  - (a) Autonomous Mars rover
  - (b) Practicing tennis against a wall
2. For each of the above agent, characterize the environment according to the properties given in Section 2.3.2 (slides pp. 18–23) , and select a suitable agent design.
3. Consider the vacuum cleaner, for which the agent is penalized one point for each movement.
  - (a) Can a simple reflex agent be perfectly rational for this environment? Explain.
  - (b) What about a reflex agent with state? Design such an agent.
  - (c) How do your answers to (a) and (b) change if the agent's percepts give it the clean/dirty status of every square in the environment?

### Submission

- **2023/10/05 24:00 (degrade by 10 points for each day delay)**
- Upload your PDF file to eclass system