

Lecture - 05

Structure of Agents

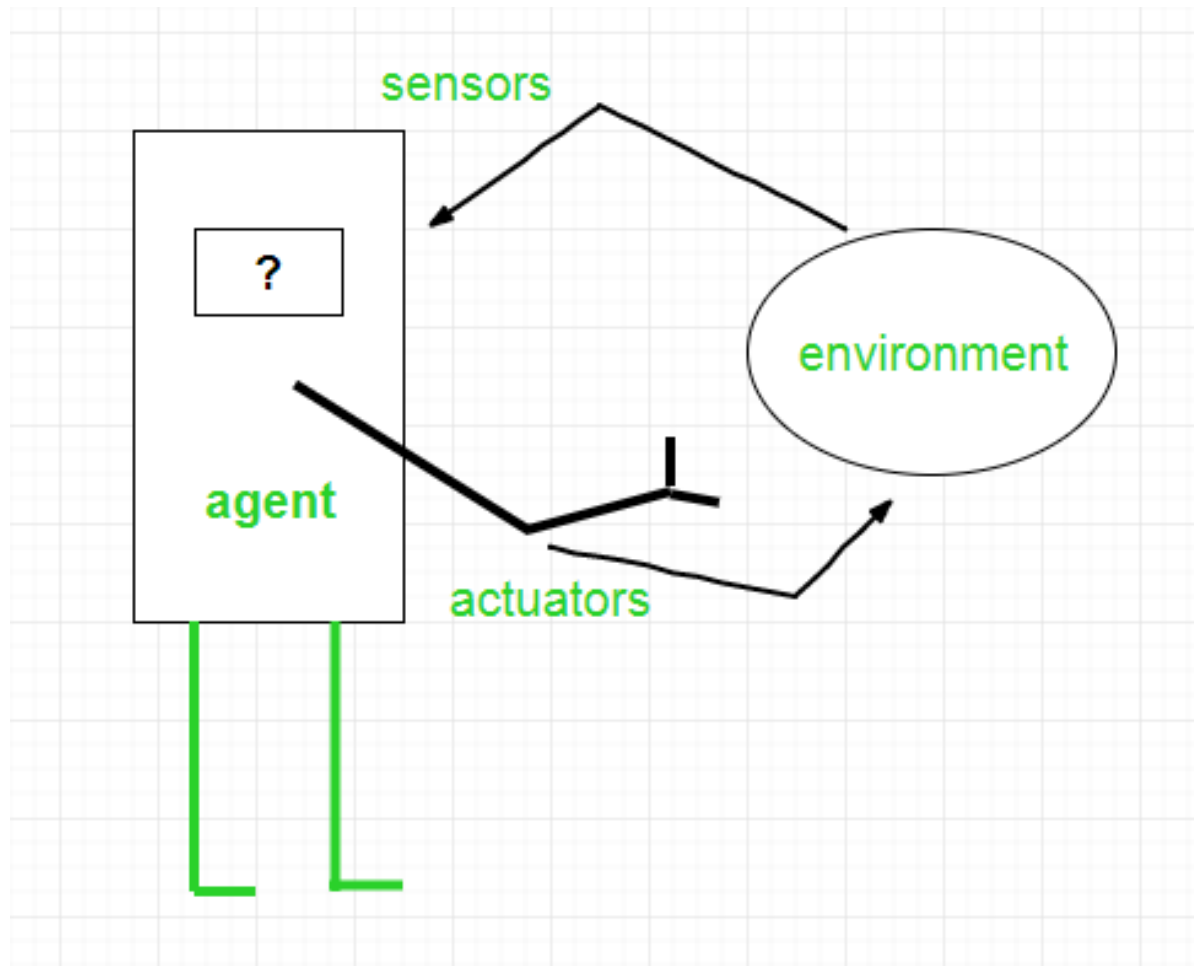
Artificial Intelligence

Dr. Ahmed Mateen

Today's Agenda

- Structure of Agents
- Agent Programs
- Agent Functions
- Agent Architecture
- Perception Action Cycle

Agents

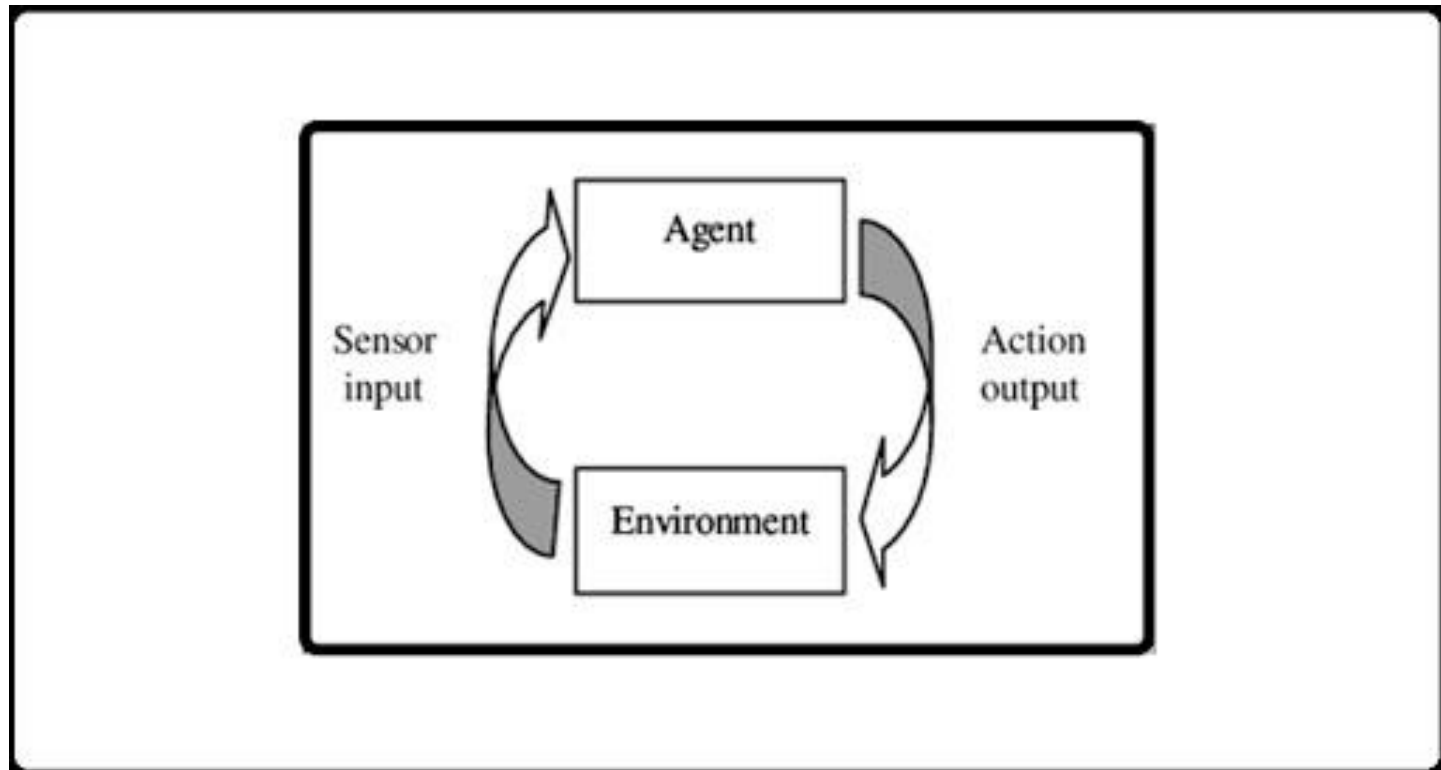


Structure of Agents

- Agent Behavior
- Agent Program
- Agent Function
- Agent Architecture

Agent Behavior

- The action that is performed after any given sequence of percepts



Agent Program

- Job of AI is to design agent program
- Describes how the insides work
- Implements agent function

Agent Programs

- Input for Agent Program
 - Only the current percept
- Output from Agent Program
 - Returns an action to the actuators

Agent Function

- The mapping from percepts to actions.
- Input for Agent Function
 - The entire percept sequence
 - The agent must remember all of them
- Agent program implements the agent function

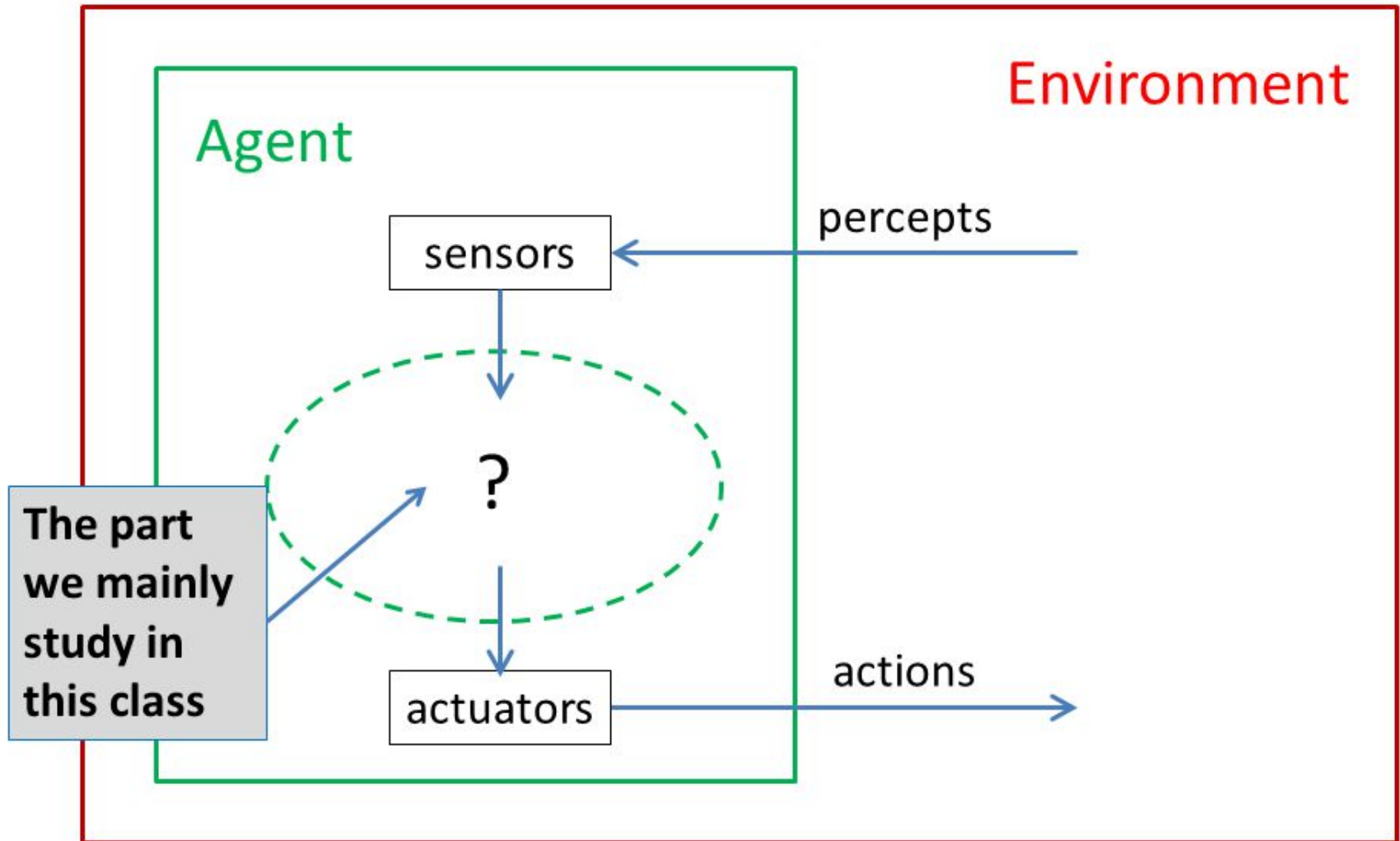
Agent Architecture

- Agent program will run on some sort of computing device with physical:
 - Sensors
 - Actuators
- we call this **ARCHITECTURE**

Structure of Agents

- Agent = architecture + program
 - Architecture = some sort of computing device (sensors + actuators)
 - (Agent) Program = some function that implements the agent mapping = “?”
 - Agent Program = Job of AI

Perception-Action Cycle



Quiz

- What's the difference between an intelligent agent and a computer program?