

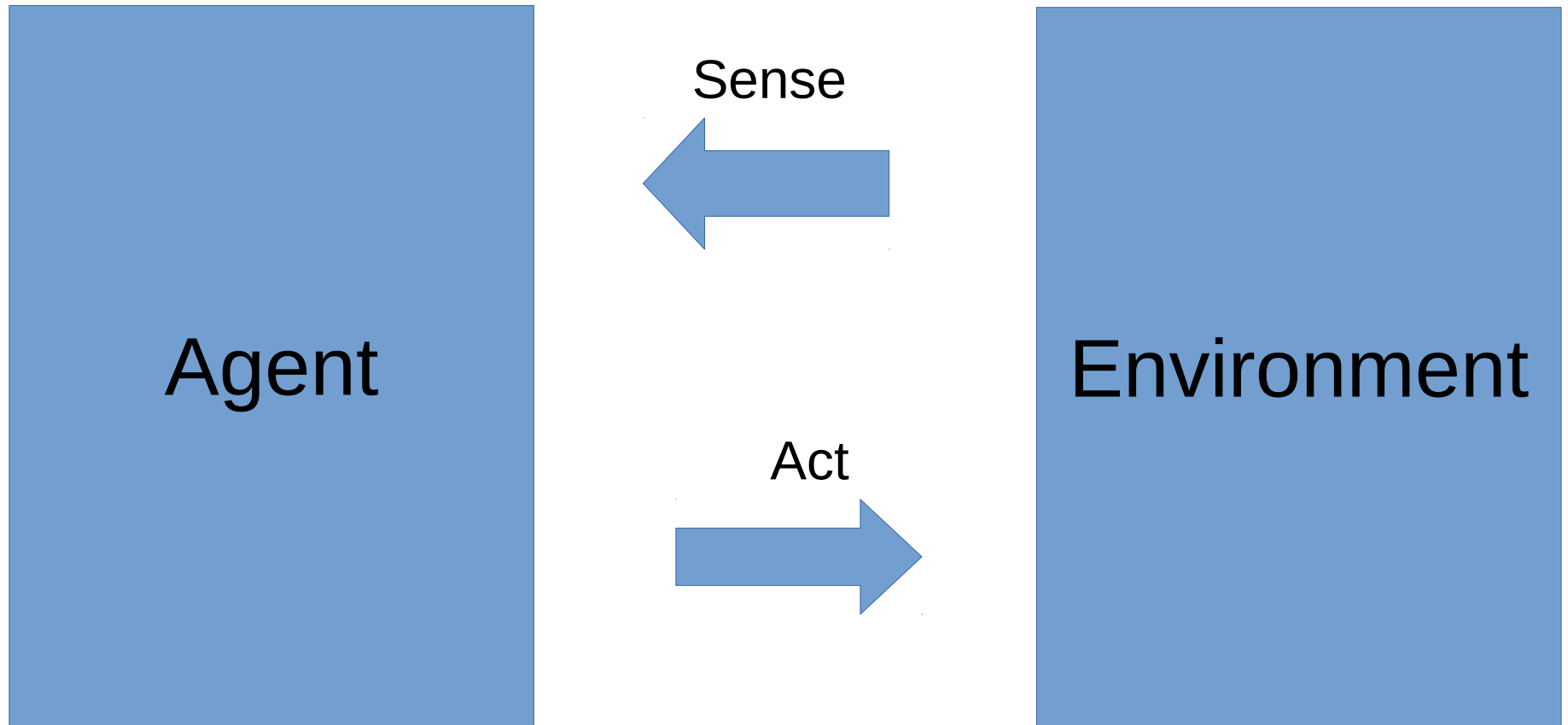
# Agents

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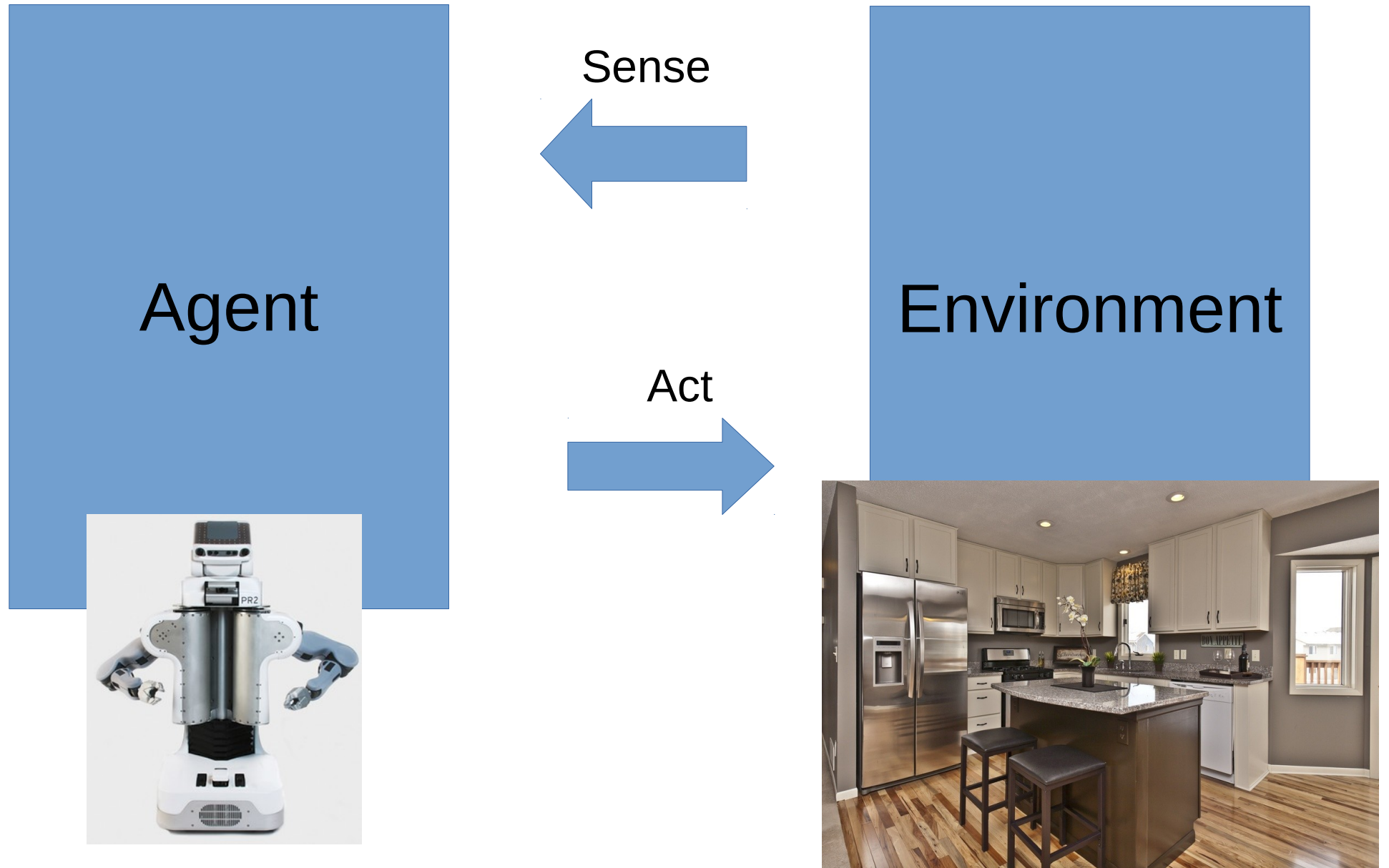
Some images and slides are used from:

1. CS188 UC Berkeley
2. RN, AIMA

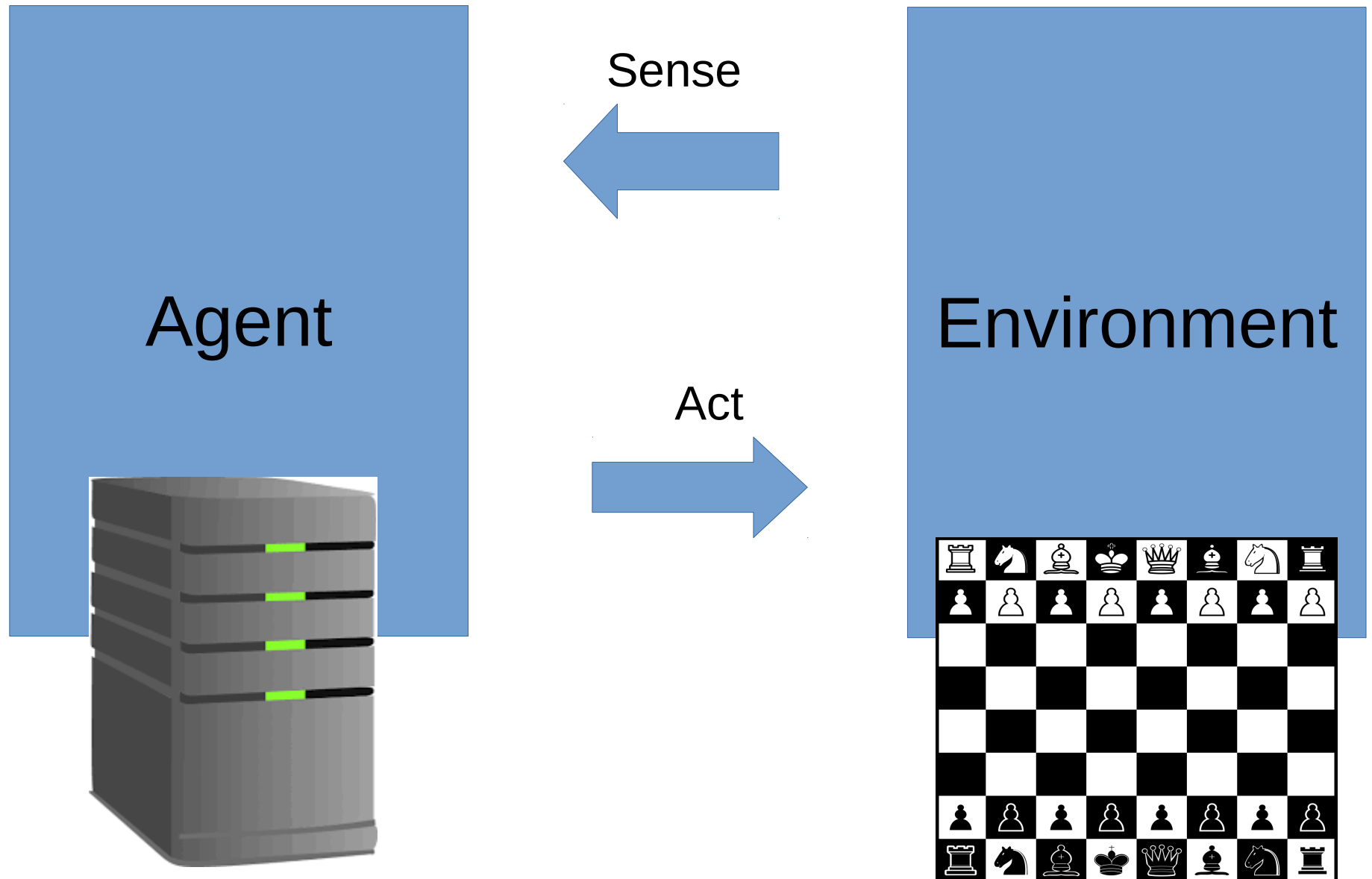
# What is an Agent?



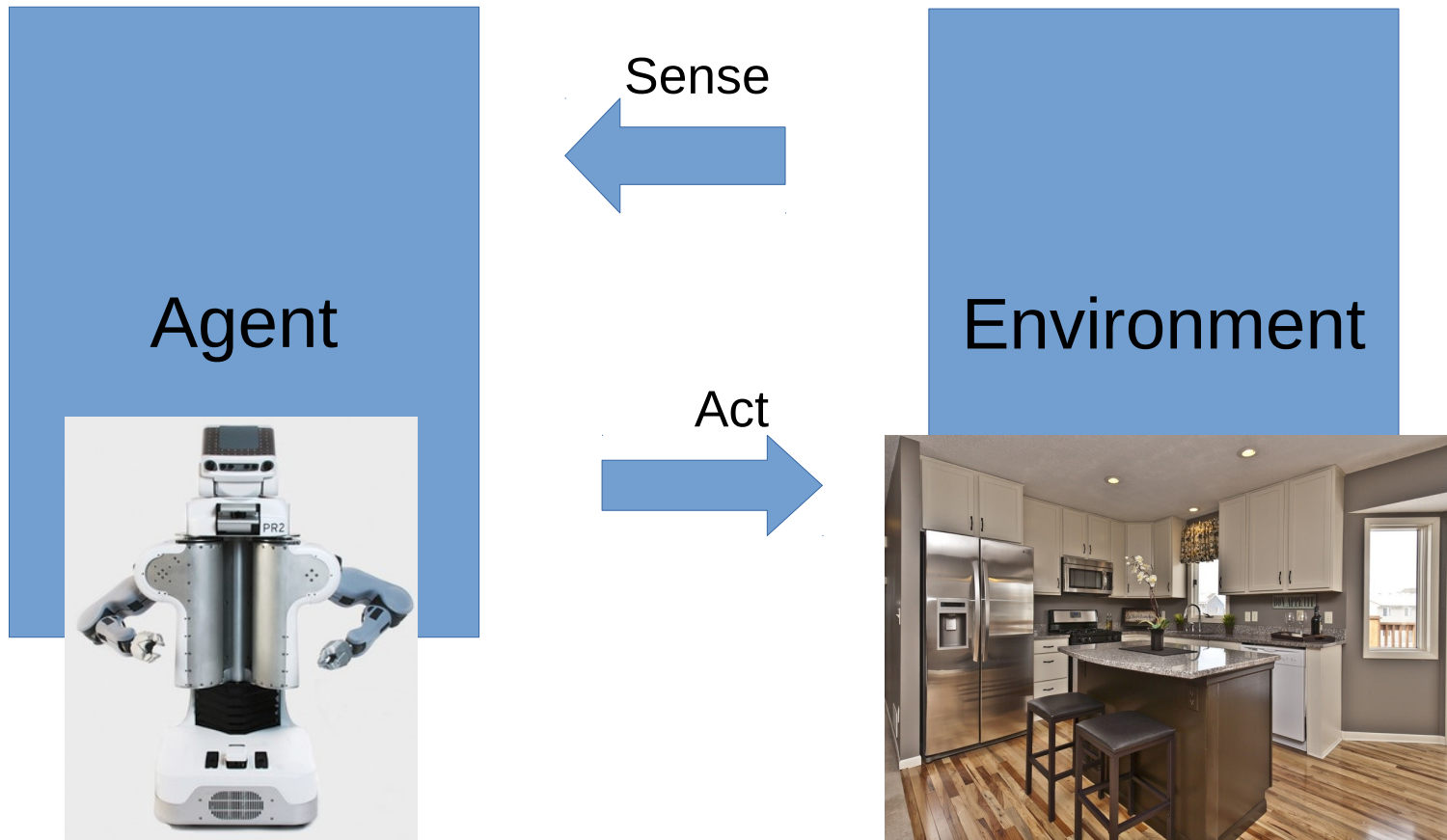
# What is an Agent?



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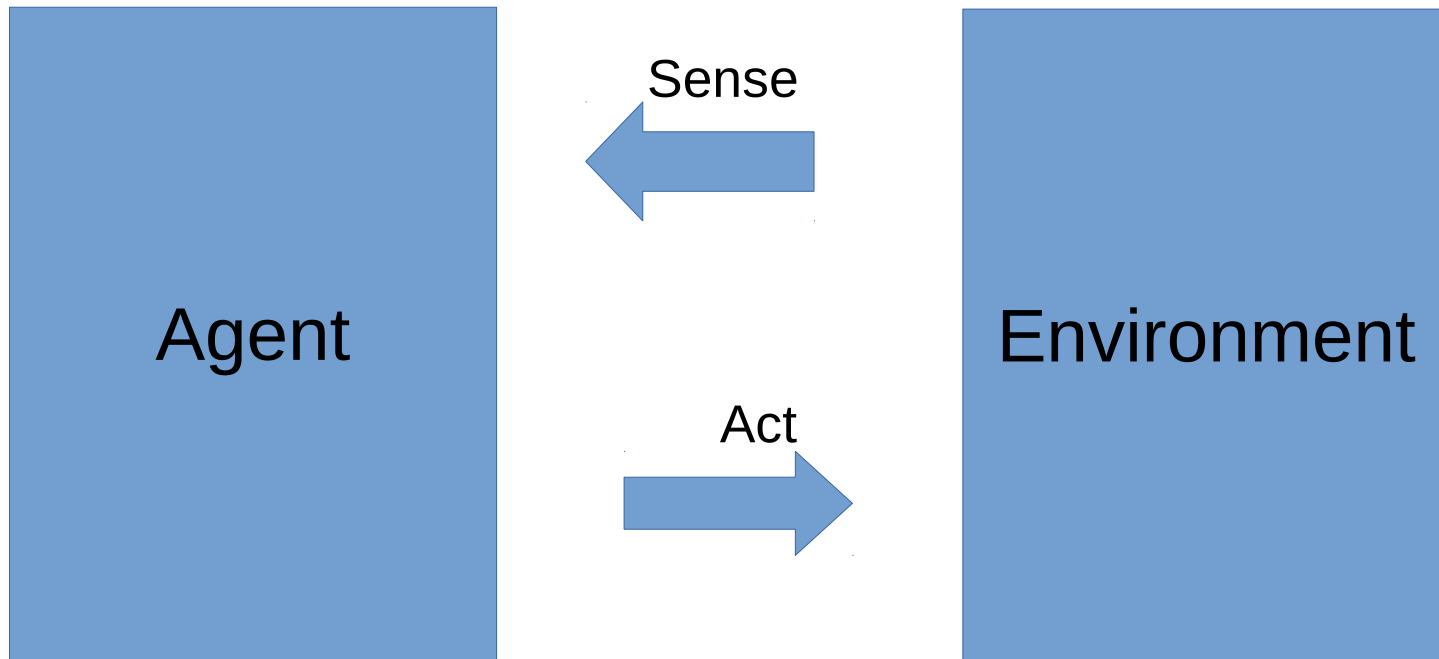
# What is an Agent?



Where is the boundary between the agent and the environment?

- how abstract are the actions (motor torques, move-to-wall)?
- how abstract are the sensory actions (pixels, object detections)?

# What is an Agent?



How does the agent decide how to act?

- reflex?
- planning?
- learning?

# The reflex agent



Direct connection between perceptions and action

– encoded by a set of if-then statements

(e.g. if I hit a wall, rotate 45 deg clockwise)

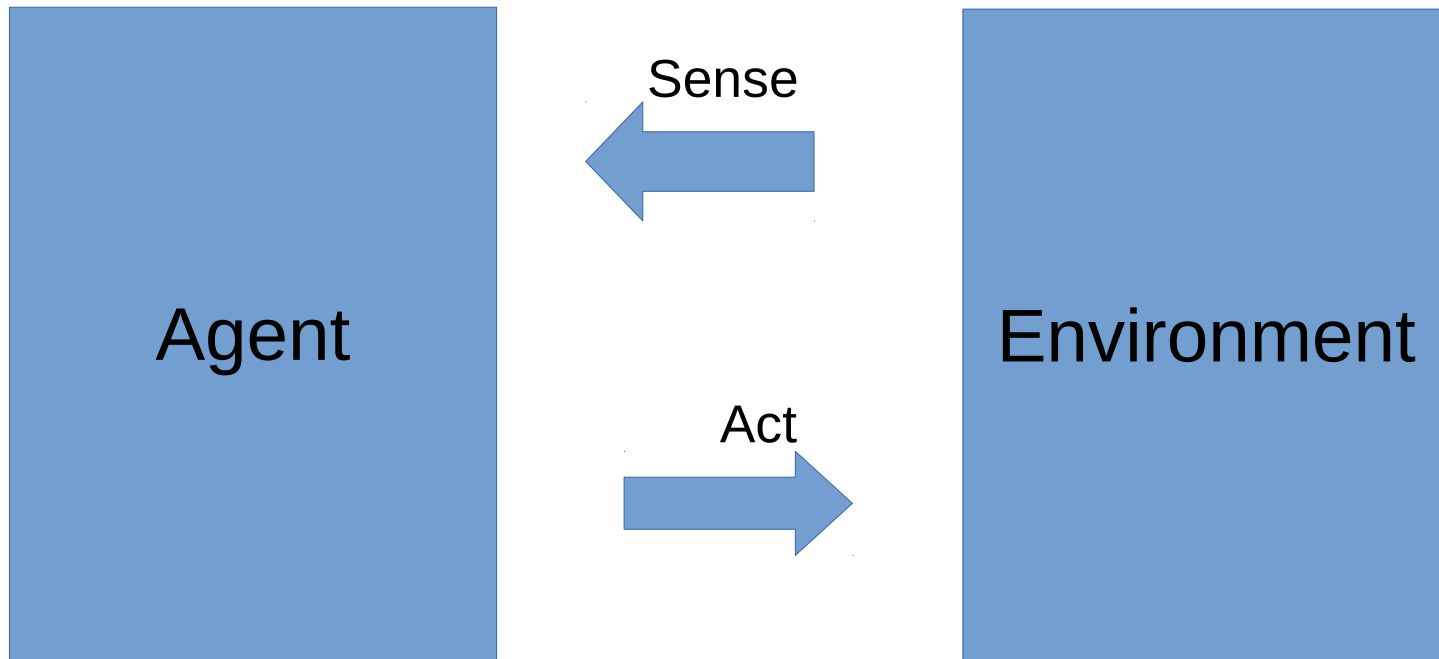
– in robotics, these are sometimes called “behavior based” methods

Advantage: fast decisions!

Disadvantage: agent might be pretty dumb

– can't deal w/ hidden state

# What is an Agent?



How does the agent decide how to act?

- reflex?
- planning (the first part of this course, e.g. A\*)?
- learning (the second part of this course, e.g. reinforcement learning)?