PDDL
Modeling 1

Gerard Canal

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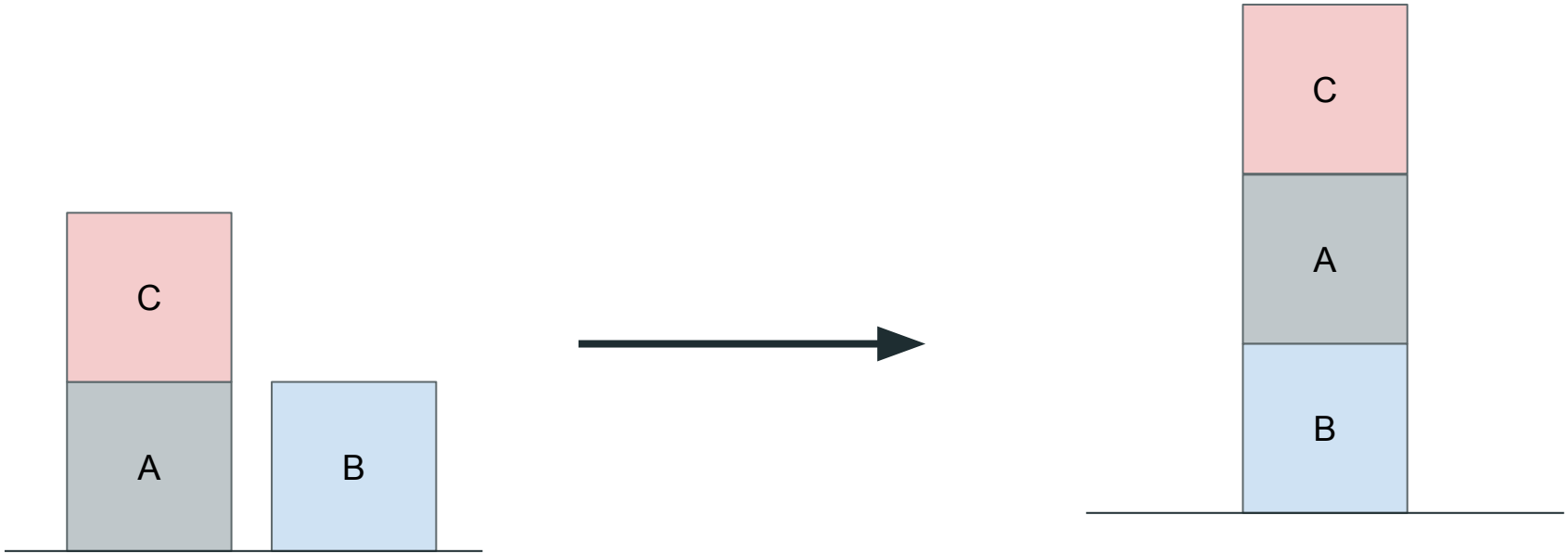
Blocks world



What predicates do we need?

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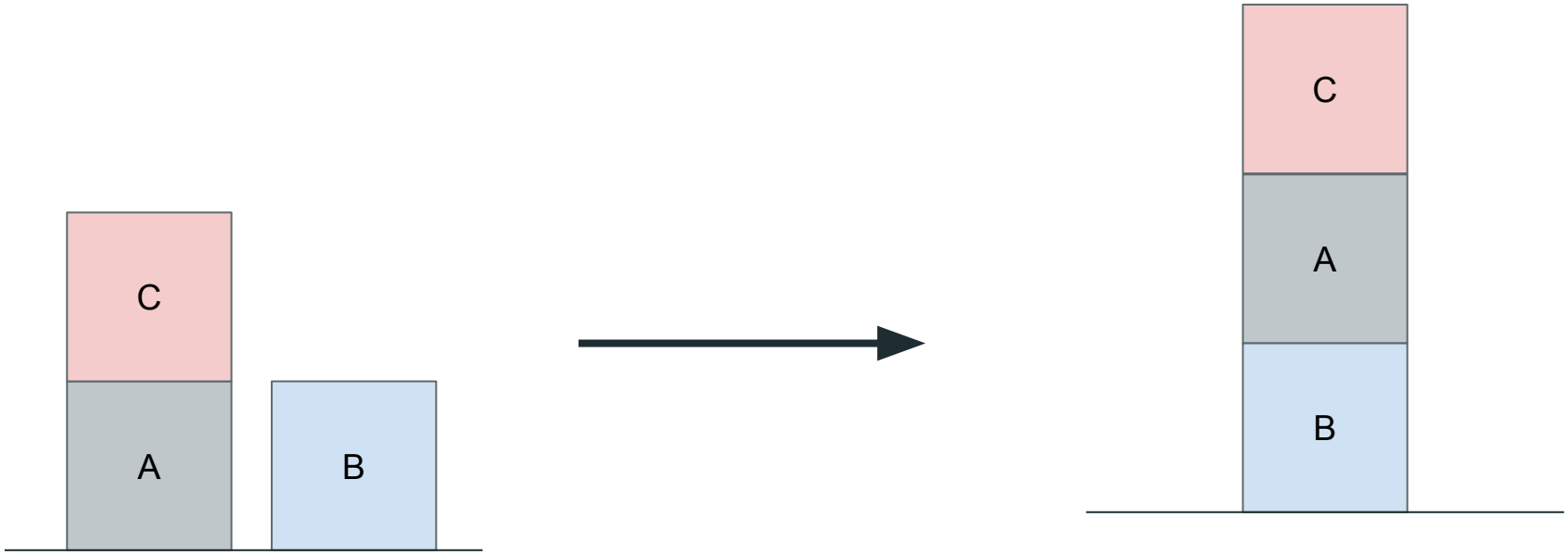
- on
  - x, y
- ontable
  - x
- clear
  - x
- handempty
- holding
  - x

What actions?

- pick-up
  - x
- put-down
  - x
- stack
  - x, y
- unstack
  - x, y

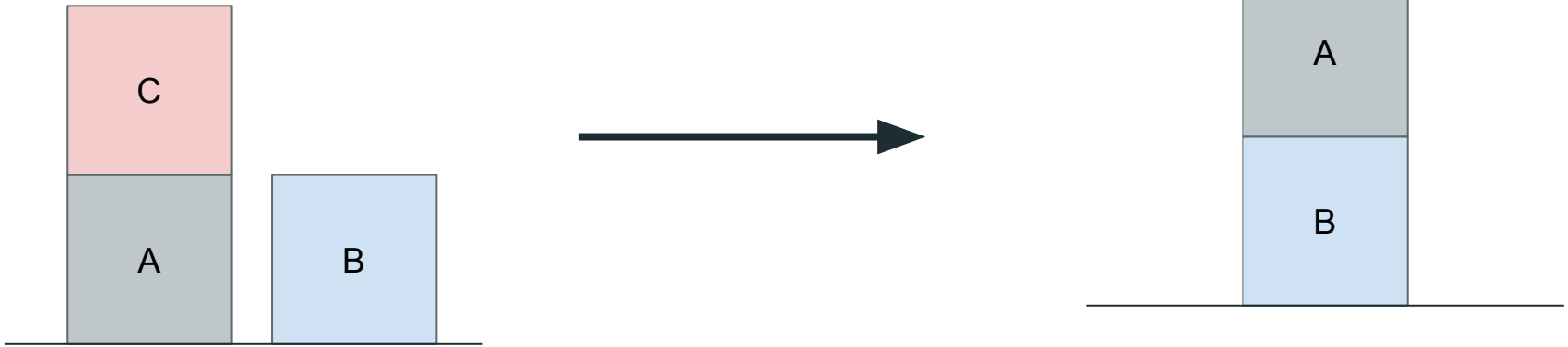
Problem 1



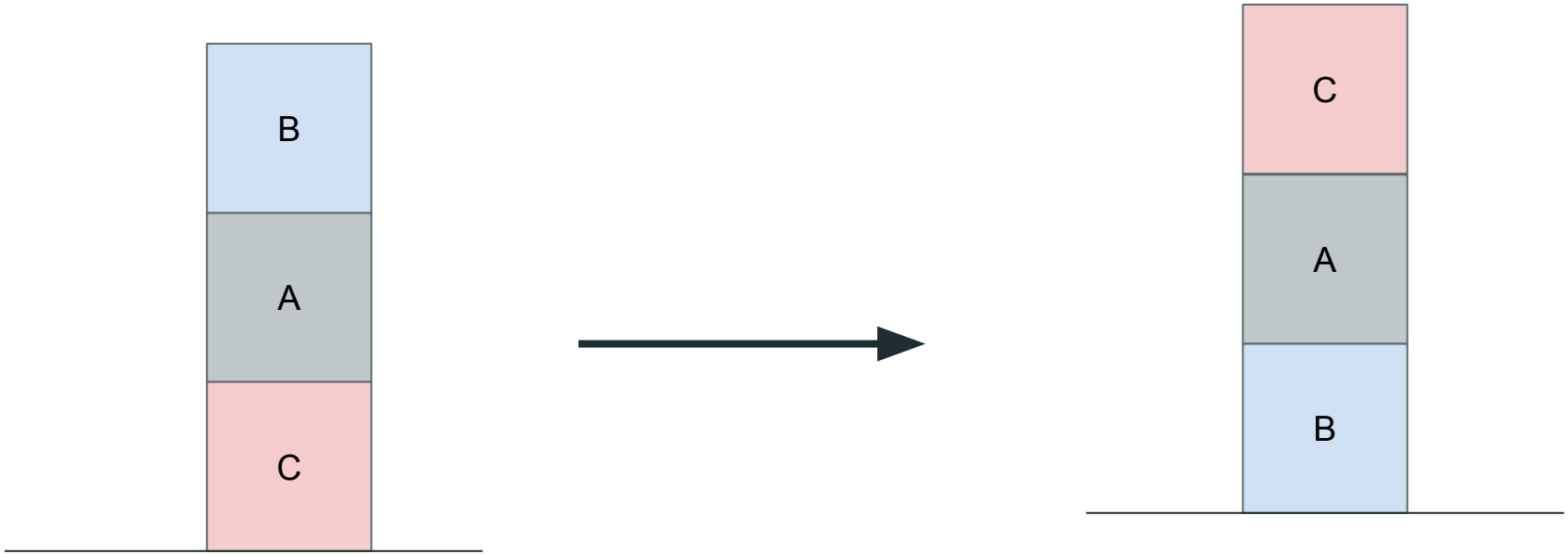
Problem 1

Download templates:

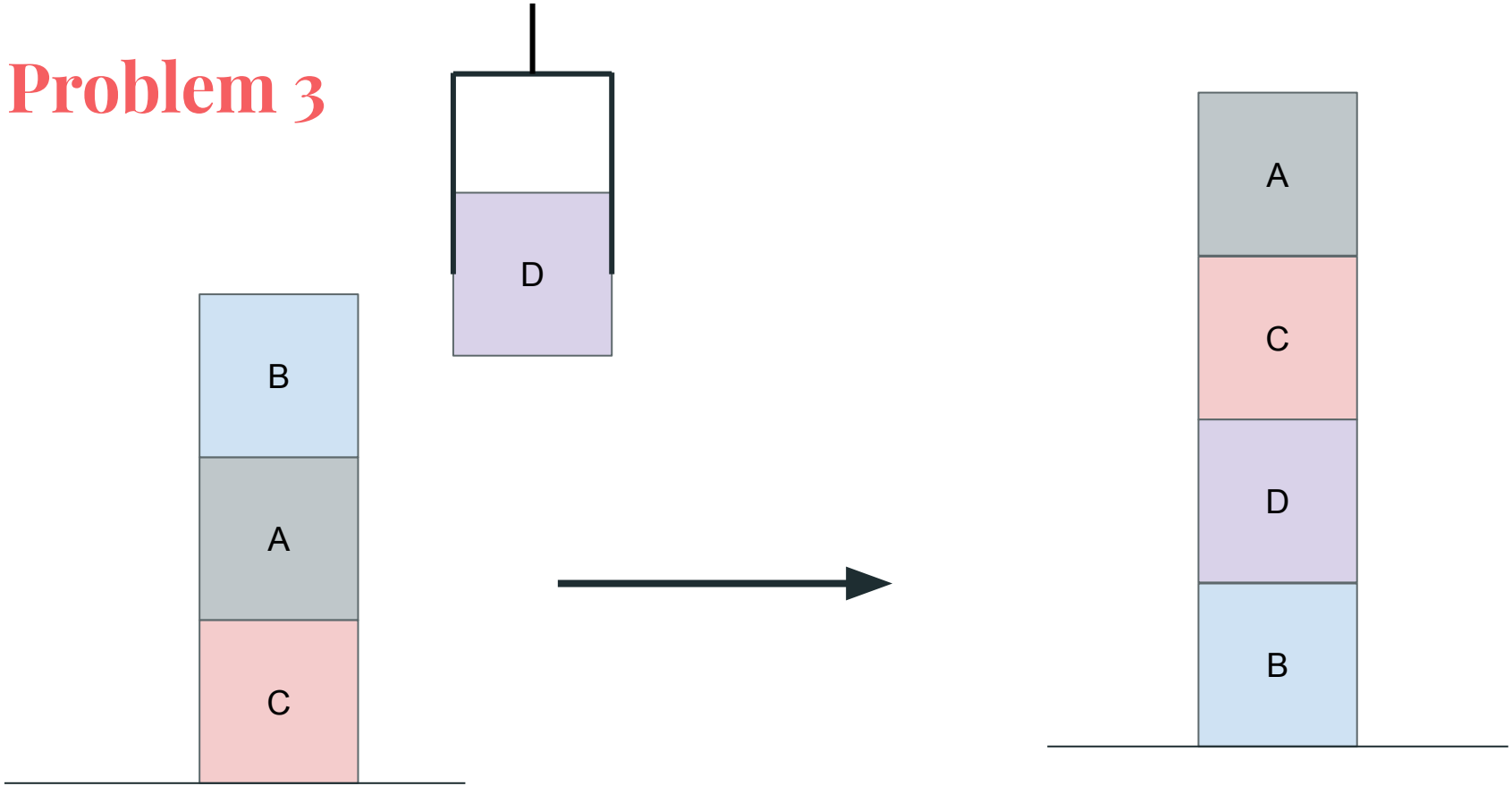
- Planner (POPF): bit.ly/ifros_popf
- Domain: bit.ly/ifros_blocks_domain
- Probem: bit.ly/ifros_blocks_problem



Problem 2



Problem 3



PDDL
Modeling 2

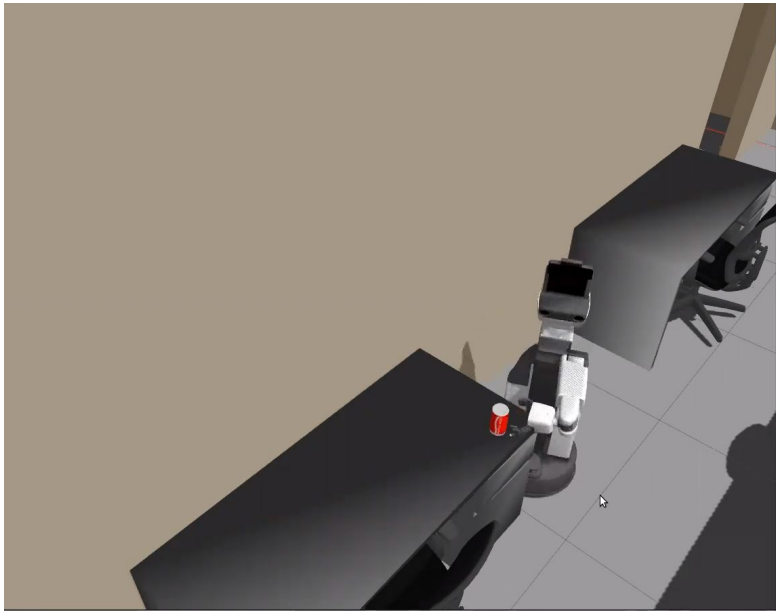
Gerard Canal

Robot assistant

We want to build a domain for a robot that:

- Moves between *waypoints*
- Picks and place objects
- Gives and takes objects to people
  - (optional)

→ Actions now take time!



Example of durative action

(:durative-action move

:parameters (?r - robot ?from - waypoint ?to - waypoint)

:duration (= ?duration 10)

:condition (at **start** (robot_at ?r ?from))

:effect (and

(at **start** (not (robot_at ?r ?from)))

(at **end** (robot_at ?r ?to))

)

)

Domain header

```
(define (domain office_domain_simple)

(:requirements :strips :typing :fluents :disjunctive-preconditions :durative-actions)

(:types
     robot
     waypoint
     …
)
(:predicates
     (robot_at ?r - robot ?w - waypoint)
…
```