

## PDDL Domain Blocksworld

```
(define (domain blocksworld-4ops)
  (:requirements :strips)

  (:predicates (clear ?x)
               (ontable ?x)
               (handempty)
               (holding ?x)
               (on ?x ?y))

  (:action pick-up
    :parameters (?ob)
    :precondition (and (clear ?ob) (ontable ?ob) (handempty))
    :effect (and (holding ?ob) (not (clear ?ob)) (not (ontable ?ob))
                (not (handempty))))

  (:action stack
    :parameters (?ob ?underob)
    :precondition (and (clear ?underob) (holding ?ob))
    :effect (and (handempty) (clear ?ob) (on ?ob ?underob)
                (not (clear ?underob)) (not (holding ?ob))))

  (:action ...
  ...
```

AutoPlanBench

## Natural-language encoding Blocksworld

**I can carry out the following actions:**

pick up an object A from the table

stack an object A on top of an object B

...

**I have the following restrictions on my actions:**

I can only pick up an object A from the table if it is the case that A is clear and the hand is empty and A is on the table

I can only stack an object A on top of an object B if it is the case that A is being held and B is clear

...

**The actions have the following effects on the state:**

Once I pick up an object A from the table, it is the case that A is being held

Once I pick up an object A from the table, it is not the case anymore that A is clear and it is not the case anymore that the hand is empty and it is not the case anymore that A is on the table

Once I stack an object A on top of an object B, it is the case that A is clear and A is on B and the hand is empty

Once I stack an object A on top of an object B, it is not the case anymore that A is being held and it is not the case anymore that B is clear

...