

Agent	Pit	Gold	
		Wumpus	
		Gold3	
	Gold2	Pit2	

Wumpus-problem-3.pddl

```
(define (problem wumpus-problem-2)
  (:domain wumpus-domain)
  (:objects sq-1-1 sq-1-2 sq-1-3 sq-1-4 sq-2-1 sq-2-2 sq-2-3 sq-2-4 sq-3-1 sq-3-2 sq-3-3 sq-3-4 sq-4-1 sq-4-2 sq-4-3 sq-4-4 the-gold the-gold2 the-gold3 the-arrow agent wumpus)
  (:init
    (adj sq-1-1 sq-1-2) (adj sq-1-2 sq-1-1)
    (adj sq-1-1 sq-2-1) (adj sq-2-1 sq-1-1)
    (adj sq-1-2 sq-1-3) (adj sq-1-3 sq-1-2)
    (adj sq-1-2 sq-2-2) (adj sq-2-2 sq-1-2)
    (adj sq-1-3 sq-1-4) (adj sq-1-4 sq-1-3)
    (adj sq-1-3 sq-2-3) (adj sq-2-3 sq-1-3)
    (adj sq-1-4 sq-2-4) (adj sq-2-4 sq-1-4)

    (adj sq-2-1 sq-2-2) (adj sq-2-2 sq-2-1)
    (adj sq-2-1 sq-3-1) (adj sq-3-1 sq-2-1)
    (adj sq-2-2 sq-2-3) (adj sq-2-3 sq-2-2)
    (adj sq-2-2 sq-3-2) (adj sq-3-2 sq-2-2)
    (adj sq-2-3 sq-2-4) (adj sq-2-4 sq-2-3)
    (adj sq-2-3 sq-3-3) (adj sq-3-3 sq-2-3)
    (adj sq-2-4 sq-3-4) (adj sq-3-4 sq-2-4)

    (adj sq-3-1 sq-3-2) (adj sq-3-2 sq-3-1)
    (adj sq-3-1 sq-4-1) (adj sq-4-1 sq-3-1)
    (adj sq-3-2 sq-3-3) (adj sq-3-3 sq-3-2)
    (adj sq-3-2 sq-4-2) (adj sq-4-2 sq-3-2)
    (adj sq-3-3 sq-3-4) (adj sq-3-4 sq-3-3)
    (adj sq-3-3 sq-4-3) (adj sq-4-3 sq-3-3)
    (adj sq-3-4 sq-4-4) (adj sq-4-4 sq-3-4)

    (adj sq-4-1 sq-4-2) (adj sq-4-2 sq-4-1)
    (adj sq-4-2 sq-4-3) (adj sq-4-3 sq-4-2)
    (adj sq-4-3 sq-4-4) (adj sq-4-4 sq-4-3))

    (pit sq-1-2)
    (pit sq-4-3)
    (is-gold the-gold)
    (at the-gold sq-1-3)
    (is-gold the-gold2)
    (at the-gold2 sq-3-3)
    (is-gold the-gold3)
    (at the-gold3 sq-4-2)
    (is-agent agent)
    (at agent sq-1-1)
    (is-arrow the-arrow)
    (have agent the-arrow)
    (is-wumpus wumpus)
    (at wumpus sq-2-3)
    (wumpus-in sq-2-3)
  )
  (:goal (and (have agent the-gold) (at agent sq-1-1))))
)
```

1)

(move-wumpus wumpus sq-2-3 sq-2-4)	<pre>(:action move-wumpus :parameters (wumpus sq-2-3 sq-2-4) :precondition (and (is-wumpus wumpus) (at wumpus sq-2-3) (adj sq-2-3 sq-2-4) (not (pit sq-2-4)) (not (wumpus-in sq-2-4))) :effect (and (not (at wumpus sq-2-3)) (at wumpus sq-2-4) (not (wumpus-in sq-2-3)) (wumpus-in sq-2-4)))</pre>
(move-agent agent sq-1-1 sq-2-1)	
(move-agent agent sq-2-1 sq-2-2)	
(move-agent agent sq-2-2 sq-2-3)	
(move-agent agent sq-2-3 sq-1-3)	
(take agent the-gold sq-1-3)	
(move-agent agent sq-1-3 sq-2-3)	
(move-agent agent sq-2-3 sq-2-2)	
(move-agent agent sq-2-2 sq-2-1)	
(move-agent agent sq-2-1 sq-1-1)	

2)

(move-wumpus wumpus sq-2-3 sq-2-4)	<pre>(:action move-agent :parameters (agent sq-1-1 sq-2-1) :precondition (and (is-agent agent) (at agent sq-1-1) (adj sq-1-1 sq-2-1) (not (pit sq-2-1)) (not (wumpus-in sq-2-1))) :effect (and (not (at agent sq-1-1)) (at agent sq-2-1)))</pre>
(move-agent agent sq-1-1 sq-2-1)	
(move-agent agent sq-2-1 sq-2-2)	
(move-agent agent sq-2-2 sq-2-3)	
(move-agent agent sq-2-3 sq-1-3)	
(take agent the-gold sq-1-3)	
(move-agent agent sq-1-3 sq-2-3)	
(move-agent agent sq-2-3 sq-2-2)	
(move-agent agent sq-2-2 sq-2-1)	
(move-agent agent sq-2-1 sq-1-1)	

3)

(move-wumpus wumpus sq-2-3 sq-2-4)
(move-agent agent sq-1-1 sq-2-1)
(move-agent agent sq-2-1 sq-2-2)
(move-agent agent sq-2-2 sq-2-3)
(move-agent agent sq-2-3 sq-1-3)
(take agent the-gold sq-1-3)
(move-agent agent sq-1-3 sq-2-3)
(move-agent agent sq-2-3 sq-2-2)
(move-agent agent sq-2-2 sq-2-1)
(move-agent agent sq-2-1 sq-1-1)

```
(:action move-agent
:parameters (agent sq-2-1 sq-2-2)
:precondition
  (and
    (is-agent agent)
    (at agent sq-2-1)
    (adj sq-2-1 sq-2-2)
    (not
      (pit sq-2-2)
    )
    (not
      (wumpus-in sq-2-2)
    )
  )
:effect
  (and
    (not
      (at agent sq-2-1)
    )
    (at agent sq-2-2)
  )
)
```

4)

(move-wumpus wumpus sq-2-3 sq-2-4)
(move-agent agent sq-1-1 sq-2-1)
(move-agent agent sq-2-1 sq-2-2)
(move-agent agent sq-2-2 sq-2-3)
(move-agent agent sq-2-3 sq-1-3)
(take agent the-gold sq-1-3)
(move-agent agent sq-1-3 sq-2-3)
(move-agent agent sq-2-3 sq-2-2)
(move-agent agent sq-2-2 sq-2-1)
(move-agent agent sq-2-1 sq-1-1)

```
(:action move-agent
:parameters (agent sq-2-2 sq-2-3)
:precondition
  (and
    (is-agent agent)
    (at agent sq-2-2)
    (adj sq-2-2 sq-2-3)
    (not
      (pit sq-2-3)
    )
    (not
      (wumpus-in sq-2-3)
    )
  )
:effect
  (and
    (not
      (at agent sq-2-2)
    )
    (at agent sq-2-3)
  )
)
```

5)

(move-wumpus wumpus sq-2-3 sq-2-4)	<pre>(:action move-agent :parameters (agent sq-2-3 sq-1-3) :precondition (and (is-agent agent) (at agent sq-2-3) (adj sq-2-3 sq-1-3) (not (pit sq-1-3)) (not (wumpus-in sq-1-3))) :effect (and (not (at agent sq-2-3)) (at agent sq-1-3)))</pre>
(move-agent agent sq-1-1 sq-2-1)	
(move-agent agent sq-2-1 sq-2-2)	
(move-agent agent sq-2-2 sq-2-3)	
(move-agent agent sq-2-3 sq-1-3)	
(take agent the-gold sq-1-3)	
(move-agent agent sq-1-3 sq-2-3)	
(move-agent agent sq-2-3 sq-2-2)	
(move-agent agent sq-2-2 sq-2-1)	
(move-agent agent sq-2-1 sq-1-1)	

6)

(move-wumpus wumpus sq-2-3 sq-2-4)	<pre>(:action take :parameters (agent the-gold sq-1-3) :precondition (and (is-agent agent) (at agent sq-1-3) (at the-gold sq-1-3)) :effect (and (have agent the-gold) (not (at the-gold sq-1-3))))</pre>
(move-agent agent sq-1-1 sq-2-1)	
(move-agent agent sq-2-1 sq-2-2)	
(move-agent agent sq-2-2 sq-2-3)	
(move-agent agent sq-2-3 sq-1-3)	
(take agent the-gold sq-1-3)	
(move-agent agent sq-1-3 sq-2-3)	
(move-agent agent sq-2-3 sq-2-2)	
(move-agent agent sq-2-2 sq-2-1)	
(move-agent agent sq-2-1 sq-1-1)	

7)

(move-wumpus wumpus sq-2-3 sq-2-4)	<pre>(:action move-agent :parameters (agent sq-1-3 sq-2-3) :precondition (and (is-agent agent) (at agent sq-1-3) (adj sq-1-3 sq-2-3) (not (pit sq-2-3)) (not (wumpus-in sq-2-3))) :effect (and (not (at agent sq-1-3)) (at agent sq-2-3)))</pre>
(move-agent agent sq-1-1 sq-2-1)	
(move-agent agent sq-2-1 sq-2-2)	
(move-agent agent sq-2-2 sq-2-3)	
(move-agent agent sq-2-3 sq-1-3)	
(take agent the-gold sq-1-3)	
(move-agent agent sq-1-3 sq-2-3)	
(move-agent agent sq-2-3 sq-2-2)	
(move-agent agent sq-2-2 sq-2-1)	
(move-agent agent sq-2-1 sq-1-1)	

8)

(move-wumpus wumpus sq-2-3 sq-2-4)	<pre>(:action move-agent :parameters (agent sq-2-3 sq-2-2) :precondition (and (is-agent agent) (at agent sq-2-3) (adj sq-2-3 sq-2-2) (not (pit sq-2-2)) (not (wumpus-in sq-2-2))) :effect (and (not (at agent sq-2-3)) (at agent sq-2-2)))</pre>
(move-agent agent sq-1-1 sq-2-1)	
(move-agent agent sq-2-1 sq-2-2)	
(move-agent agent sq-2-2 sq-2-3)	
(move-agent agent sq-2-3 sq-1-3)	
(take agent the-gold sq-1-3)	
(move-agent agent sq-1-3 sq-2-3)	
(move-agent agent sq-2-3 sq-2-2)	
(move-agent agent sq-2-2 sq-2-1)	
(move-agent agent sq-2-1 sq-1-1)	

9)

(move-wumpus wumpus sq-2-3 sq-2-4)
(move-agent agent sq-1-1 sq-2-1)
(move-agent agent sq-2-1 sq-2-2)
(move-agent agent sq-2-2 sq-2-3)
(move-agent agent sq-2-3 sq-1-3)
(take agent the-gold sq-1-3)
(move-agent agent sq-1-3 sq-2-3)
(move-agent agent sq-2-3 sq-2-2)
(move-agent agent sq-2-2 sq-2-1)
(move-agent agent sq-2-1 sq-1-1)

```

(:action move-agent
  :parameters (agent sq-2-2 sq-2-1)
  :precondition
    (and
      (is-agent agent)
      (at agent sq-2-2)
      (adj sq-2-2 sq-2-1)
      (not
        (pit sq-2-1)
      )
      (not
        (wumpus-in sq-2-1)
      )
    )
  :effect
    (and
      (not
        (at agent sq-2-2)
      )
      (at agent sq-2-1)
    )
)

```

10)

(move-wumpus wumpus sq-2-3 sq-2-4)
(move-agent agent sq-1-1 sq-2-1)
(move-agent agent sq-2-1 sq-2-2)
(move-agent agent sq-2-2 sq-2-3)
(move-agent agent sq-2-3 sq-1-3)
(take agent the-gold sq-1-3)
(move-agent agent sq-1-3 sq-2-3)
(move-agent agent sq-2-3 sq-2-2)
(move-agent agent sq-2-2 sq-2-1)
(move-agent agent sq-2-1 sq-1-1)

```

(:action move-agent
  :parameters (agent sq-2-1 sq-1-1)
  :precondition
    (and
      (is-agent agent)
      (at agent sq-2-1)
      (adj sq-2-1 sq-1-1)
      (not
        (pit sq-1-1)
      )
      (not
        (wumpus-in sq-1-1)
      )
    )
  :effect
    (and
      (not
        (at agent sq-2-1)
      )
      (at agent sq-1-1)
    )
)

```