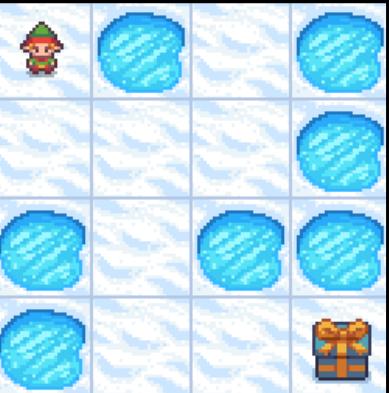


## Domain Description

The grid world consists of cells that are either **ground** or **ice holes**. The player starts at one cell and must reach the **goal** cell by moving **up, down, left, or right**, without **stepping onto an ice hole**.



## SimVLM generated scenario description:

*Initially:*

- The size of the grid world is 4x4
- The agent is at pos-1-1.
- The goal is at pos-4-4.
- The ice holes are at pos-1-2, pos-1-4, pos-2-4, pos-3-1, pos-3-3, pos-3-4.

*Your goal is to achieve the following configuration:*

- The agent is at pos-4-4

## GenVLM generated PDDL Files:

### Problem PDDL:

```
(define (problem FL)
```

...

```
(:objects
  pos-1-1 pos-1-2 ...)
```

)

```
(:init
  (at pos-1-1)
  (ice-hole pos-1-2)
  ...
```

```
(right pos-1-1 pos-1-2)
  ...
  )
```

```
(:goal
  (at pos-4-4)
  )
```

...

### Domain PDDL:

```
(define (domain FL)
```

...

```
(:predicates
  (at ?x) (ice-hole ?x)
  ...)
```

```
(:action move-right
  :parameters (?from ?to)
  :precondition (and
```

(at ?from)

```
(right ?from ?to))
  :effect (and
```

(at ?to)

```
(not (at ?from)))
```

)

...

Both Problem and Domain PDDLS are valid PDDL files, prescreening passed.

Start Rating & Feedback

## Rating & Feedback: Round 1

Random Action Sequence 1: move down, move right

## SimVLM Execution Result & Feedback

Step 1 - Action move down:

*Execution Reasoning:*

The agent tries to move down from pos-1-1. Since there is **no ice hole** in cell pos-2-1, it successfully moves to pos-2-1.

*Execution Result: Successful.*



Step 2 – Action move right...

## Generated PDDL Execution Result

The actions are **executable** in generated environment

Action sequence is executable in both environments

Random Action Sequence 2: move right

## SimVLM Execution Result & Feedback

Step 1 - Action move right:

*Execution Reasoning:*

The agent tries to move right from pos-1-1 to pos-1-2. Since **there is an ice hole** in cell pos-1-2, the agent **falls** into the ice hole, so the **game ends** and the execution is unsuccessful.



*Execution Result: Unsuccessful.*

## Generated PDDL Execution Result

The actions are **executable** in generated environment

Execution discrepancy exists (**score < 1**)

Update PDDL files

## GenVLM Updates:

### Update Reasoning:

...

The **precondition** of **move-right** action is insufficient. Since the agent is not allowed to step onto ice holes, **(not (ice-hole ?from))** should be added in **domain** PDDL file.

...

### Updated Domain PDDL:

...

```
(:action move-down
  :parameters (?from ?to)
  :precondition (and
    (at ?from)
    (down ?from ?to))
  (not (ice-hole ?from))
  :effect (and
    (at ?to)
    (not (at ?from))))
```

...

*PDDL files updated, starting a new round of rating*

## Rating & Feedback: Round 2

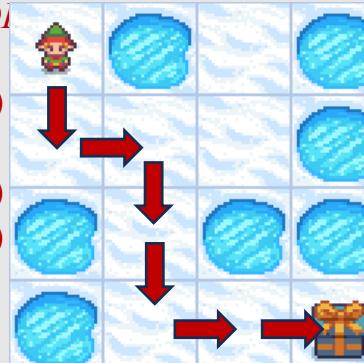
...

*All random action executions have same results, score = 1*

*Searching for plan using PDI*

*Plan Found:*

```
(move-down pos-1-1 pos2-1)
(move-right pos-2-1 pos2-2)
(move-down pos-2-2 pos3-2)
(move-down pos-3-2 pos4-2)
(move-right pos-4-2 pos4-3)
(move-right pos-4-3 pos4-4)
```



*Checking for plan validness...*

## SimVLM Execution Result

*Goal Reaching: Successful.*

*The plan is valid*

*The updated Problem and Domain PDDL files are returned as the output*