

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:	Domain PDDL:
(define (problem FL)	(define (domain FL)
...	...
(:objects	(:predicates
pos-1-1 pos-1-2 ...	(at ?x) (ice-hole ?x)
)	...
(:init	(:action move-right
(at pos-1-1)	:parameters (?from ?to)
(ice-hole pos-1-2)	:precondition (and
...	(at ?from)
(right pos-1-1 pos-1-2)	(right ?from ?to))
...	:effect (and
)	(at ?to)
(:goal	(not (at ?from)))
(at pos-4-4))
)	...
...)

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:	Updated Domain PDDL:
...	...
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.	(: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 PDDL
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