Enter “start” to start the game and initiate the world.

```
start:-
  init_world,
  init_stench,
  init_breeze,
  format('Start game.~n',[]),

  update_agent_location([[1,1]]),
  step.


init_world:-
  retractall(gold_location(_)),
  assert(gold_location([2,3])),

  retractall(pit_location(_)),
  assert(pit_location([3,1])),
  assert(pit_location([3,3])),
  assert(pit_location([4,4])),

  retractall(wumpus_location(_)),
  assert(wumpus_location([1,3])).


init_breeze:-
  pit_location([X,Y]),
  retractall(breeze_location(_)),
  X1 is X-1, assert(breeze_location([X1,Y])),
  X2 is X+1, assert(breeze_location([X2,Y])),
  Y1 is Y-1, assert(breeze_location([X,Y1])),
  Y2 is Y+1, assert(breeze_location([X,Y2])).

init_stench:-
  wumpus_location([X,Y]),
  retractall(stench_location(_)),
  X1 is X-1, assert(stench_location([X1,Y])),
  X2 is X+1, assert(stench_location([X2,Y])),
  Y1 is Y-1, assert(stench_location([X,Y1])),
  Y2 is Y+1, assert(stench_location([X,Y2])).
```

The functions “check_ “ will check if the location have the gold, Wumpus, pits, breeze and stench.

```
check_pit(pit):-
  agent_location([X1,Y1]),
  pit_location([X2,Y2]),
  X1 = X2, Y1 = Y2,
  format('Fall into the pit.~n',[]).
check_pit(no_pit):-
  format('No pits~n',[]).

check_breeze(feel_breeze):-
  agent_location([X1,Y1]),
  breeze_location([X2,Y2]),
  X1 = X2, Y1 = Y2,
  format('There is a pit nearby.~n',[]).

check_breeze(no_breeze):-
  format('No pits.~n',[]).

check_wumpus(wumpus):-
  agent_location([X1,Y1]),
  wumpus_location([X2,Y2]),
  X1 = X2, Y1 = Y2,
  format('You died.~n',[]).

check_wumpus(no_wumpus):-
  format('No wumpus.~n',[]).

check_stench(small_stench):-
  agent_location([X1,Y1]),
  stench_location([X2,Y2]),
  X1 = X2, Y1 = Y2,
  format('There is a Wumpus nearby.~n',[]).

check_stench(no_stench):-
  format('No stench.~n',[]).

check_gold(gold):-
  agent_location([X1,Y1]),
  gold_location([X2,Y2]),
  X1 = X2, Y1 = Y2,
  format('You win.~n',[]).

check_gold(no_gold):-
  format('No gold here.~n',[]).

check_perception(safe):-
  check_breeze(no_breeze),
  check_pit(no_pit),
  check_stench(no_stench),
  check_wumpus(no_wumpus).

check_perception(unsafe):-
  check_breeze(feel_breeze),
  check_stench(small_stench).

check_perception(deadly):-
  check_pit(pit),
  check_wumpus(wumpus).
```

Enter “right”, “left”, “up” and “down” wo move the agent.

```
right:-
  agent_location([X1,Y]),
  X2 is X1+1, assert(agent_location([X2,Y])),
  step.

left:-
  agent_location([X1,Y]),
  X2 is X1-1,assert(agent_location([X2,Y])),
  step.

up:-
  agent_location([X,Y1]),
  Y2 is Y1+1,assert(agent_location([X,Y2])),
  step.

down:-
  agent_location([X,Y1]),
  Y2 is Y1-1,assert(agent_location([X,Y2])),
  step.
```