CS4023D Artificial Intelligence
Assignment 1
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Q1.

Outputs:

```
PS D:\SEM 7\AI\Assignment> python q1.py

--------------------------------------------------------
Environment : [0, 0]    Start Position : 0

Starting simulation...
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 0
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 0
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 0
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 0
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 0
Simulation stopped...

Graph of position of agent:
0 -> 1 -> 1 -> 0 -> 0 -> 0

--------------------------------------------------------
Environment : [0, 0]    Start Position : 1

Starting simulation...
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 0
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 0
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 0
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 0
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 0
Simulation stopped...

Graph of position of agent:
 1 -> 1 -> 0 -> 0 -> 0 -> 1

--------------------------------------------------------
Environment : [0, 1]    Start Position : 0

Starting simulation...
        Action : RIGHT         Environment : [0, 1]    Position : 1    Performance : 0
        Action : SUCK          Environment : [0, 0]    Position : 1    Performance : 1
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 1
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 1
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 1
Simulation stopped...

Graph of position of agent:
0 -> 1 -> 1 -> 1 -> 1 -> 1

--------------------------------------------------------
Environment : [0, 1]    Start Position : 1

Starting simulation...
        Action : SUCK          Environment : [0, 0]    Position : 1    Performance : 1
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 1
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 1
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 1
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 1
Simulation stopped...

Graph of position of agent:
1 -> 1 -> 0 -> 0 -> 0 -> 1

--------------------------------------------------------
Environment : [1, 0]    Start Position : 0

Starting simulation...
        Action : SUCK          Environment : [0, 0]    Position : 0    Performance : 1
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 1
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 1
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 1
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 1
Simulation stopped...

Graph of position of agent:
0 -> 0 -> 1 -> 0 -> 1 -> 1
```

```
----------------------------------------------------------
Environment : [1, 0]    Start Position : 1

Starting simulation...
        Action : RIGHT         Environment : [1, 0]    Position : 1    Performance : 0
        Action : LEFT          Environment : [1, 0]    Position : 0    Performance : 0
        Action : SUCK          Environment : [0, 0]    Position : 0    Performance : 1
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 1
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 1
Simulation stopped...

Graph of position of agent:
1 -> 1 -> 0 -> 0 -> 1 -> 0


----------------------------------------------------------
Environment : [1, 1]    Start Position : 0

Starting simulation...
        Action : SUCK          Environment : [0, 1]    Position : 0    Performance : 1
        Action : RIGHT         Environment : [0, 1]    Position : 1    Performance : 1
        Action : SUCK          Environment : [0, 0]    Position : 1    Performance : 2
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 2
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 2
Simulation stopped...

Graph of position of agent:
0 -> 0 -> 1 -> 1 -> 1 -> 0


----------------------------------------------------------
Environment : [1, 1]    Start Position : 1

Starting simulation...
        Action : SUCK          Environment : [1, 0]    Position : 1    Performance : 1
        Action : LEFT          Environment : [1, 0]    Position : 0    Performance : 1
        Action : SUCK          Environment : [0, 0]    Position : 0    Performance : 2
        Action : RIGHT         Environment : [0, 0]    Position : 1    Performance : 2
        Action : LEFT          Environment : [0, 0]    Position : 0    Performance : 2
Simulation stopped...

Graph of position of agent:
1 -> 1 -> 0 -> 0 -> 1 -> 0

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REPORT
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Configuration : (0, 0)    ::    Performance Points : 0
Configuration : (0, 1)    ::    Performance Points : 1
Configuration : (1, 0)    ::    Performance Points : 1
Configuration : (1, 1)    ::    Performance Points : 2
PS D:\SEM 7\AI\Assignment>
```

The agent has been programmed to run 5 steps for the purpose of providing sample output images.