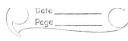
Program 5: Implement vacuum cleaner agent.

Write-up:

DRANAN TAGANTECH IDMIOZONII PONGDAM 5
PRANAV JAGADEESH IBMISCSO71 PROGRAM 5 Implement Vaccum cleaner agent
del eacuem world ():
dif eacoum morld(): geal state = {'A': 'o'; 'B': 'o'}
x = 0
lesstion infact = infact ("Enter Location of Vacuum It") itatus_infact = infact ("Enter status of" +" "I leation infact + "(+")
Status input = input ("Enter statue of +" "I Placation input
+"(t")
status input implement = input ("Enter status of other
soom (t")
initial state = {'A': states input, 'B': states input- complement }
prent (" Initial bacation Condition "+ its (initial etato)) if location input = 'A':
 prent mitial bacotion Condition "+ its (initial etato))
of location input = A:
print ("Vacuum is placed in Location A")



```
if status_input ==')';

print ("Location A is Dirty.")

goal_state ['A'] = '0'
   frint ("Cost for CLEANING A"+ etr (cost))
    brint ( "Location of has been cleaned,")
    if taters-infut complement == "1"
     Shirt ("Moning hight to the Location B.")
      point ("Coxt for moring RIGHT" + ster (coxt))
goal state ['B'] = (0'
     fruit ("Cox for suck" + its (cost))
Fruit ("Location B has leven Cleaned.
                  Location B is already clean."
    phint ("Location A is already clean"

status-input complement ==";":

fruit ("Location B is dirty.")

wint ("Moning Right to the Location 13.")
print ("COST for moring RIGHT" + str (cost))
goal state ['B'] = '0'
  print ("No action" tetr (cost))
    frint ("Location B is abready clean
```

else print ("Vacuum is placed in location 13")

if statue_input =='1':

print ("Location B is dirty:")

goal_state['13']='0'

cost += 1 print ("Cost for cleaning" + sta (cost))

print ("Location B has been cleaned.")

states input complement == "1":

print ("Location A is Disty.") print ("Moning LEFT t ("Cost for moving ftf ?" + star-state ['A']='0' print ("Cost for suck " + its (cost))
rint ("Location A has been cleaned. print (Coet t ("Location B is already clean."
etatus-input complement == " [".

unt ["Location A is Dirty.") int ("Moning PEFT to the focation A geal_state ['A']='o') print ("Cost for Svex "1 + Str (cost))

print ("Location A has been cleaned."
clee: print ("No action "+ ste (cost))

print ("Location A is already clean



print ("GOM STATE") print (geal-state) print ("Renfermance Measurement:" + est. (cost)) Macuum - sucord () Ontput: Enter Location of Vacuum A Enter Matur of A 1 Enter Matur of other learn of Instial bacation randidion (A': '1', 'B': '1') Vacuum to placed in location A Location A is Pirty Cost fex CLTANING A 1 Location B is Pirty Maning right to the facation B Cest fer moving RIGHT2 Cost fex State: 3 Location B has been dearned. GeAL STATE: (A': '0'!B": '0'} Performance Measurement: 3 Delput 2: Enter Location of Vacuum: B Enter Status of then Boom / Institut Anation Condition (A': '1' 'E': '1') Vacuum is placed in location B Location B is Pirty Cost fer Cleaning / Location B has been cleaned		
print (goal-state) print ("Perfermance Measurement:" + str (cost)) Macurm - secord () Ontfint: Enter Location of Vacuum A Enter Matur of A 1 Enter Matur of A 1 Initial broation condition ("A": "I", "B": "I") Vacuum is placed in Location A Location A is Distry Cost for CLEANING A 1 Location B is Distry. Maniny right to the Jacation B. Cost for morning RIGHT2 Cost for suck 3 Location B has been cleaned. GOAL STATE: ("A": "O": B": "O") Performance Measurement: 3 Inspect 2: Enter Location of Vacuum: B Enter Status of the Boom I Smitial Location Condition ("A": "I" "p": "I") Vacuum is placed in Location B Location B is Distry	paint ("	GOAL STATE:")
bint ("Perfermance Measurement: + Atr (cost)) Macuum - sucorld () Ontput: Enter Location of Vacuum A Enter Matur of A 1 Enter Matur of A 1 Enter Matur of other loom J Toutial breation condition \(\beta \times \cdot	bunt (as	eal state
Ontput: Enter Location of Vacuum A Enter Mater of A 1 Enter Mater of A 1 Initial bacation condition (A':'1','B':'1') Vacuum to placed in location A Location A is Disty Cost for CIFANING A 1 Location B is Disty. Maning right to the focation B. Cost for moving BIGHT2 Cost for Stack: 3 Location B has been deaned. GOAL STATE: (A':'0':'B':'0') Performance Measurement: 3 Desput?: Enter Location of Vacuum: B Enter Status of the Boom / Initial Location Condition (A':'1' if i':'1') Vacuum is placed in location B Lucation B is Disty	bint (")	Performance Measurement: " + str (west))
Ontput: Enter Location of Vacuum A Enter Mater of A 1 Enter Mater of A 1 Enter Status of other seam 1 Initial bacation condition (A':'I', B': 'I') Vacuum is placed in location A Location A is Disty Cost for CLEANING A 1 Location B is Disty. Moning right to the facation B. Cost for moving RIGHT2 Cost for Suck 3 Location B has been cleaned. GOAL STATE: (A':'O''.B':'O'? Performance Measurement: 3 Inspect 2: Enter Location of Vacuum: B Enter Status of then Boom / Justial Location Condition (A':'I' 'g':'I') Vacuum is placed in location B Lucation B is Disty	macusm	- recorld ()
Enter Mater of A 1 Enter Status of other seam of Initial bacation condition (A':'1', B':'1') Vacuum is placed in tocation A Location A is Disty Cost for CHEANING A 1 Location B is Disty. Mening sight to the focution B. Cost for moning BIGHT2 Cost for suck 3 Location B has been cleaned. GOAL STATE: (A':'0':'B':'0') Performance Measurement: 3 Inter Status of John Boom [Inter S		,
Enter Mater of A 1 Enter Status of other seam of Initial bacation condition (A':'1', B':'1') Vacuum is placed in tocation A Location A is Disty Cost for CHEANING A 1 Location B is Disty. Mening sight to the focution B. Cost for moning BIGHT2 Cost for suck 3 Location B has been cleaned. GOAL STATE: (A':'0':'B':'0') Performance Measurement: 3 Inter Status of John Boom [Inter S	Output: t	nter Location of Vaccum A
Interest the status of other soom of the status of the seation of		
Vacuum is placed in tocation A Location A is Disty Cost for CLEANING A Location B is Disty. Maniny seight to the focation B. Cost for moving RIGHT2 Cost for suck 3 Location B has been deaned. GOAL STATE: (A': 'O''. B': 'O''. Performance Measurement: 3 Inter status of B Louer status of B Location Condition (A': 'I' 'E': 'I'.) Vacuum is placed in location B Lucation B is Disty	En	ter status of other from 1
Vacuum is placed in location A Location A is Disty Cost fex (ItANING A) Location B is Disty. Mening sight to the location B. Cost fex moving RIGHT2 Cost fex suck 3 Location B has been deared. GOAL STATE: {'A': 'O'!B': 'O'} Performance Measurement: 3 Infert 2: Enter Location of Vacuum: B Enter Status of B Invitial Location Condition & A': 'I' & 'I' Vacuum is placed in location B Location B is Dirty	Zni	Fial bocation condition {'A': "1', B': "1'}
Location A has been deaned Location B is Dirty. Maning right to the focation B. Cost for moring BIGHT2 Cost for stack: 3 Location B has been deaned. GOAL STATE: {A': 'O': B': 'O'} Performance Measurement: 3 Inter status of place Boom [Initial Location Condition {A: 'I' 'E': 1'} Vanue is placed in location B Lucation B is Dirty	Vac	www is placed in Location A
Location A has been deaned Location B is Dirty. Maning right to the focation B. Cost for moring BIGHT2 Cost for stack: 3 Location B has been deaned. GOAL STATE: {A': 'O': B': 'O'} Performance Measurement: 3 Inter status of place Boom [Initial Location Condition {A: 'I' 'E': 1'} Vanue is placed in location B Lucation B is Dirty	La	reation A is Disty
Location if has been dearned Location B is Dirty. Maniny right to the forestion B. Cost for moving RIGHT2 Cost for suck 3 Location B has been dearned. GOAL STATE: {A': 'O':'B':'O'} Performance Measurement: 3 District Status of Vacuum: B Enter Status of other Boom [Initial Location Condition ?'A': 'I' 'E':'I'] Vacuum is placed in location B Lucation B is Dirty	Cas	t for CLEANING A
Moning right to the focation B. Cost for moving BIGHT2 Cost for suck 3 Focation B has been cleaned. GOAL STATE: {A': 'O': B': 'O'} Performance Measurement: 3 Patter Location of Vacuum: B Enter Status of B Enter Status of Ether Boom Initial Location Condition {'A': 'I' 'E': I'} Vacuum is placed in Location B Lucation B is Dirty	Lo	cation A has been deaned
Moning right to the focation B. Cost for moving BIGHT2 Cost for suck 3 Focation B has been cleaned. GOAL STATE: {A': 'O': B': 'O'} Performance Measurement: 3 Patter Location of Vacuum: B Enter Status of B Enter Status of Ether Boom Initial Location Condition {'A': 'I' 'E': I'} Vacuum is placed in Location B Lucation B is Dirty	Lo	reation B is Dirty.
Cost fer suck 3 position B has been deaned. GOAL STATE: {A': 'O'!B': 'O'} Performance Measurement: 3 Intput 2: Enter Location of Vacuum: B Enter Status of B Enter Status of then Boom Linitial Location Condition {A': 1' B': 1'} Vaccum is placed in location B Lucation B is Dirty	/V,	laving sight to the facation B.
Josation B has been deaned. GOAL STATE: {A': 'O'!B': 'O'} Performance Measurement: B Futer Location of Vacuum: B Enter Status of B Enter Status of then Boom Initial Location Condition E'A': 'I' E': I'} Vacuum is placed in Location B Lucation B is Dirty		
GOAL STATE: {'A': 'O'!B': 'O'} Performance Measurement: 3 Intput 2: Enter Location of Vacuum: B Enter Status of B Enter Status of then Boom Initial Location Condition {'A': 'I' 'E': I'} Vacuum is placed in Location B Lucation B is Dirty		
Performance Measurement: 3 Intput 2: Enter Location of Vacuum: B Enter Status of B Enter Status of the Boom Initial Location Condition & H': 1' E': 1'3 Vacuum is placed in location B Lucation B is Dirty	•	······································
Performance Measurement: 3 Intput 2: Enter Location of Vacuum: B Enter Status of B Enter Status of the Boom Initial Location Condition & H': 1' E': 1'3 Vacuum is placed in location B Lucation B is Dirty		CAL STATE.
Inter Location of Vacuum: B Enter Status of B / Enter Status of then Boom / Instial Location Condition & H': 1' E': 1'3 Vacuum is placed in location B Lucation B is Dirty		
Enter Status of B 1 toler Status of other Boom 1 Initial Location Condition & H': 1' E': 1'3 Vacuum is placed in location B Lucation B is Dirty	/	Enformance Pleasurement. 3
Enter Status of B 1 toler Status of other Boom 1 Initial Location Condition & H': 1' E': 1'3 Vacuum is placed in location B Lucation B is Dirty	Outlook 2.	Entre Location of Varuum: B
Initial Location Condition & H': 1' &: 1'3 Vacuum is placed in location B Lucation B is Dirty		
Vanum is placed in location B Lucation B is Dirty		Fuler Satur of other Boom
Vanum is placed in location B Lucation B is Dirty		Instial Location Condition & H': 1' F': 1'
Lucation B is Dirty		Vanum is placed in location B
Location B has been cleaned focation A is Dirty Morning Left to the Location A.		Lucation B is Dirty
Location B has been bleaned Location A is Disty Morning Left to the Location A.		Cost for Cleaning 1
Moring Left to the Location A.		Location B has been cleaned
Morning Left to the Location A.		Location A is Dirty
// //		1 1 1 1 1 1 1 1

	classmate
	Date
	Part la 1elt?
	Cost for moving Left 2
	1-1- 1 P
	Location A has been cleaned
	Creal State: {'A': D', B': '0'}
	\mathcal{D}
	Performance Meanirement: 3
	DH +2. 51 1 201
	Output 3: Enter location of Vaccuum A
	Enter status of A D
	Enter status of other room 0
	Initeal bocation condition of A': (0' B': (0')
	Vaccum is placed in Exertion A
	Lecation A is already clean No action 0
	n
	lantin p : land la
	Location B is already clean.
	GOAL state: { 'A': '0', '18': '0'}
	0
	Performance Measurement, o
0. H +1.	Et. 1 lind Varian B
valput of.	Enter Location of Vacuum B Enter storters of B O
	Factor takes of other grown of
	Enter status of other soom o Initial location condition {'A': 'O', 'B': 'O'}
	Vanum is placed in location B
	O
	Location B is already clean
	No action 0
	Location A is already clean
	Stoal state:
-	Orval state: 1 'A': 10', B': 10's
	Performance Measurement: 0
	V

Program: def vacuum_world(): goal_state = {'A': '0', 'B': '0'} cost = 0location_input = input("Enter Location of Vacuum \t") status_input = input("Enter status of"+" " + location_input + "\t") status_input_complement = input("Enter status of other room \t") initial_state = {'A' : status_input , 'B' : status_input_complement} print("Initial Location Condition" + str(initial_state)) if location_input == 'A': print("Vacuum is placed in Location A") if status_input == '1': print("Location A is Dirty.") $goal_state['A'] = '0'$ cost += 1print("Cost for CLEANING A " + str(cost)) print("Location A has been Cleaned.") if status_input_complement == '1': print("Location B is Dirty.")

print("Moving right to the Location B. ")

print("COST for moving RIGHT" + str(cost))

cost += 1

```
goal\_state['B'] = '0'
       cost += 1
       print("COST for SUCK " + str(cost))
       print("Location B has been Cleaned. ")
     else:
       print("No action" + str(cost))
       print("Location B is already clean.")
  if status_input == '0':
     print("Location A is already clean ")
     if status_input_complement == '1':
       print("Location B is Dirty.")
       print("Moving RIGHT to the Location B. ")
       cost += 1
       print("COST for moving RIGHT " + str(cost))
       goal\_state['B'] = '0'
       cost += 1
       print("Cost for SUCK" + str(cost))
       print("Location B has been Cleaned. ")
     else:
       print("No action " + str(cost))
       print(cost)
       print("Location B is already clean.")
else:
  print("Vacuum is placed in location B")
```

```
if status_input == '1':
  print("Location B is Dirty.")
  goal\_state['B'] = '0'
  cost += 1
  print("COST for CLEANING " + str(cost))
  print("Location B has been Cleaned.")
  if status_input_complement == '1':
     print("Location A is Dirty.")
     print("Moving LEFT to the Location A. ")
     cost += 1
     print("COST for moving LEFT" + str(cost))
     goal\_state['A'] = '0'
     cost += 1
     print("COST for SUCK " + str(cost))
     print("Location A has been Cleaned.")
else:
  print(cost)
  print("Location B is already clean.")
  if status_input_complement == '1':
     print("Location A is Dirty.")
     print("Moving LEFT to the Location A. ")
     cost += 1
```

```
print("COST for moving LEFT " + str(cost))

goal_state['A'] = '0'
    cost += 1
    print("Cost for SUCK " + str(cost))
    print("Location A has been Cleaned. ")

else:
    print("No action " + str(cost))

print("Location A is already clean.")

print("GOAL STATE: ")

print(goal_state)

print("Performance Measurement: " + str(cost))

vacuum_world()
```

```
Enter Location of Vacuum
Enter status of A 1
Enter status of other room 1
Initial Location Condition{'A': '1', 'B': '1'}
Vacuum is placed in Location A
Location A is Dirty.
Cost for CLEANING A 1
Location A has been Cleaned.
Location B is Dirty.
Moving right to the Location B.
COST for moving RIGHT2
COST for SUCK 3
Location B has been Cleaned.
GOAL STATE:
{'A': '0', 'B': '0'}
Performance Measurement: 3
```

```
Enter Location of Vacuum B
Enter status of B 1
Enter status of other room 1
Initial Location Condition{'A': '1', 'B': '1'}
Vacuum is placed in location B
Location B is Dirty.
COST for CLEANING 1
Location B has been Cleaned.
Location A is Dirty.
Moving LEFT to the Location A.
COST for moving LEFT2
COST for SUCK 3
Location A has been Cleaned.
GOAL STATE:
{'A': '0', 'B': '0'}
Performance Measurement: 3
```

```
Enter Location of Vacuum A
Enter status of A 0
Enter status of other room 0
Initial Location Condition{'A': '0', 'B': '0'}
Vacuum is placed in Location A
Location A is already clean
No action 0
0
Location B is already clean.
GOAL STATE:
{'A': '0', 'B': '0'}
Performance Measurement: 0
```

```
Enter Location of Vacuum B
Enter status of B 0
Enter status of other room 0
Initial Location Condition{'A': '0', 'B': '0'}
Vacuum is placed in location B
0
Location B is already clean.
No action 0
Location A is already clean.
GOAL STATE:
{'A': '0', 'B': '0'}
Performance Measurement: 0
```