Vaccum Cleaner

```python
def vacuum_world():
    # initializing goal_state
    # 0 indicates Clean and 1 indicates Dirty
    goal_state = {'A': '0', 'B': '0'}
    cost = 0


    location_input = input("Enter Location of Vacuum") #user_input of location vacuum is placed
    status_input = input("Enter status of " + location_input) #user_input if location is dirty or clean
    status_input_complement = input("Enter status of other room")
    print("Initial Location Condition" + str(goal_state))


    if location_input == 'A':
        # Location A is Dirty.
        print("Vacuum is placed in Location A")
        if status_input == '1':
            print("Location A is Dirty.")
            # suck the dirt  and mark it as clean
            goal_state['A'] = '0'
            cost += 1                #cost for suck
            print("Cost for CLEANING A " + str(cost))
            print("Location A has been Cleaned.")

            if status_input_complement == '1':
                # if B is Dirty
                print("Location B is Dirty.")
                print("Moving right to the Location B. ")
                cost += 1                #cost for moving right
                print("COST for moving RIGHT" + str(cost))
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            # suck the dirt and mark it as clean
            goal_state['B'] = '0'
            cost += 1                    #cost for suck
            print("COST for SUCK " + str(cost))
            print("Location B has been Cleaned. ")
        else:
            print("No action" + str(cost))
            # suck and mark clean
            print("Location B is already clean.")


    if status_input == '0':
        print("Location A is already clean ")
        if status_input_complement == '1':# if B is Dirty
            print("Location B is Dirty.")
            print("Moving RIGHT to the Location B. ")
            cost += 1                    #cost for moving right
            print("COST for moving RIGHT " + str(cost))
            # suck the dirt and mark it as clean
            goal_state['B'] = '0'
            cost += 1                    #cost for suck
            print("Cost for SUCK" + str(cost))
            print("Location B has been Cleaned. ")
        else:
            print("No action " + str(cost))
            print(cost)
            # suck and mark clean
            print("Location B is already clean.")


else:
    print("Vacuum is placed in location B")
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```python
# Location B is Dirty.
if status_input == '1':
    print("Location B is Dirty.")
    # suck the dirt  and mark it as clean
    goal_state['B'] = '0'
    cost += 1  # cost for suck
    print("COST for CLEANING " + str(cost))
    print("Location B has been Cleaned.")

    if status_input_complement == '1':
        # if A is Dirty
        print("Location A is Dirty.")
        print("Moving LEFT to the Location A. ")
        cost += 1  # cost for moving right
        print("COST for moving LEFT" + str(cost))
        # suck the dirt and mark it as clean
        goal_state['A'] = '0'
        cost += 1  # cost for suck
        print("COST for SUCK " + str(cost))
        print("Location A has been Cleaned.")

else:
    print(cost)
    # suck and mark clean
    print("Location B is already clean.")

    if status_input_complement == '1':  # if A is Dirty
        print("Location A is Dirty.")
        print("Moving LEFT to the Location A. ")
        cost += 1  # cost for moving right
```

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

            # suck the dirt and mark it as clean

            goal_state['A'] = '0'

            cost += 1  # cost for suck

            print("Cost for SUCK " + str(cost))

            print("Location A has been Cleaned. ")

        else:

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

            # suck and mark clean

            print("Location A is already clean.")


    # done cleaning

    print("GOAL STATE: ")

    print(goal_state)

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


vacuum_world()
```

```
Enter Location of VacuumA
Enter status of A1
Enter status of other room1
Initial Location Condition{'A': '0', 'B': '0'}
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
```

```
vacuum_world()
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Enter Location of VacuumA
Enter status of A0
Enter status of other room0
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 VacuumB
Enter status of B0
Enter status of other room1
Initial Location Condition{'A': '0', 'B': '0'}
Vacuum is placed in location B
0
Location B is already clean.
Location A is Dirty.
Moving LEFT to the Location A.
COST for moving LEFT 1
Cost for SUCK 2
Location A has been Cleaned.
GOAL STATE:
{'A': '0', 'B': '0'}
Performance Measurement: 2