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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 (A or B): ").strip().upper() # User input for vacuum loc
    status_input = input(f"Enter status of {location_input} (0 for Clean, 1 for Dirty): ").strip() # Status o
    other_location = 'B' if location_input == 'A' else 'A'
    status_input_complement = input(f"Enter status of {other_location} (0 for Clean, 1 for Dirty): ").strip()

    print("Initial Location Condition: " + str(goal_state))

    # Helper function to clean a location
    def clean(location):
        nonlocal cost
        goal_state[location] = '0'
        cost += 1 # Cost for sucking dirt
        print(f"Location {location} has been Cleaned. Cost: {cost}")

    # Main logic
    if location_input == 'A':
        print("Vacuum is placed in Location A.")
        if status_input == '1':
            print("Location A is Dirty.")
            clean('A')
            if status_input_complement == '1':
                print("Location B is Dirty.")
                print("Moving right to Location B.")
                cost += 1 # Cost for moving right
                print(f"COST for moving RIGHT: {cost}")
                clean('B')
            else:
                print("Location B is already clean.")
        else:
            print("Location A is already clean.")
            if status_input_complement == '1':
                print("Location B is Dirty.")
                print("Moving right to Location B.")
                cost += 1 # Cost for moving right
                print(f"COST for moving RIGHT: {cost}")
                clean('B')
            else:
                print("Location B is already clean.")
    else: # Vacuum is placed in Location B
        print("Vacuum is placed in Location B.")
        if status_input == '1':
            print("Location B is Dirty.")
            clean('B')
            if status_input_complement == '1':
                print("Location A is Dirty.")
                print("Moving left to Location A.")
                cost += 1 # Cost for moving left
                print(f"COST for moving LEFT: {cost}")
                clean('A')
            else:
                print("Location A is already clean.")
        else:
            print("Location B is already clean.")
            if status_input_complement == '1':
                print("Location A is Dirty.")
                print("Moving left to Location A.")
                cost += 1 # Cost for moving left

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        print(f"COST for moving LEFT: {cost}")
        clean('A')
    else:
        print("Location A is already clean.")

# Done cleaning
print("GOAL STATE: ")
print(goal_state)
print("Performance Measurement: " + str(cost))

# Output
print('OUTPUT:')
print('SWAPNIL SAHIL (1BM22CS300)')
vacuum_world()

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➡ OUTPUT:

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SWAPNIL SAHIL (1BM22CS300)
Enter Location of Vacuum (A or B): A
Enter status of A (0 for Clean, 1 for Dirty): 1
Enter status of B (0 for Clean, 1 for Dirty): 1
Initial Location Condition: {'A': '0', 'B': '0'}
Vacuum is placed in Location A.
Location A is Dirty.
Location A has been Cleaned. Cost: 1
Location B is Dirty.
Moving right to Location B.
COST for moving RIGHT: 2
Location B has been Cleaned. Cost: 3
GOAL STATE:
{'A': '0', 'B': '0'}
Performance Measurement: 3

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