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))

                # 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")

        # 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

                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()

**OUTPUT:**



