**Exp: 6 Write the python program for Vacuum Cleaner Problem.**

**Input:**

def vacuum\_cleaner():

    room\_A = input("Is Room A dirty? (yes/no): ").strip().lower()

    room\_B = input("Is Room B dirty? (yes/no): ").strip().lower()

    location = input("Where is the vacuum cleaner? (A/B): ").strip().upper()

    print("\nInitial State:")

    print(f"Room A: {room\_A}, Room B: {room\_B}, Vacuum at: {location}")

    if location == 'A':

        if room\_A == 'yes':

            print("Vacuum is in Room A and it's dirty. Cleaning...")

            room\_A = 'no'

        print("Moving to Room B...")

        if room\_B == 'yes':

            print("Room B is dirty. Cleaning...")

            room\_B = 'no'

    elif location == 'B':

        if room\_B == 'yes':

            print("Vacuum is in Room B and it's dirty. Cleaning...")

            room\_B = 'no'

        print("Moving to Room A...")

        if room\_A == 'yes':

            print("Room A is dirty. Cleaning...")

            room\_A = 'no'

    else:

        print("Invalid location.")

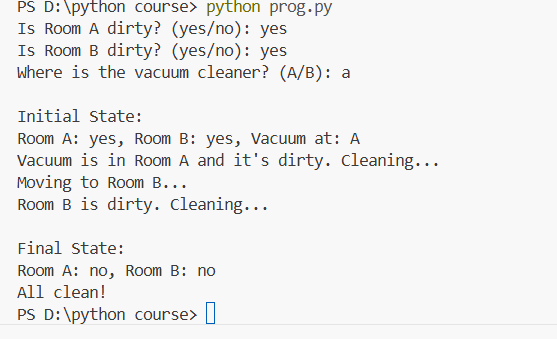
    print("\nFinal State:")

    print(f"Room A: {room\_A}, Room B: {room\_B}")

    print("All clean!")

vacuum\_cleaner()

**output:**

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