6.Write the python program for Vacuum Cleaner problem

def vacuum\_cleaner():

# Initial conditions

room\_A = input("Enter status of Room A (Clean/Dirty): ").strip().capitalize()

room\_B = input("Enter status of Room B (Clean/Dirty): ").strip().capitalize()

location = input("Enter vacuum location (A/B): ").strip().upper()

print("\nInitial State:")

print(f"Vacuum is in Room {location}")

print(f"Room A is {room\_A}")

print(f"Room B is {room\_B}\n")

# Cleaning Logic

if location == 'A':

if room\_A == 'Dirty':

print("Cleaning Room A...")

room\_A = 'Clean'

if room\_B == 'Dirty':

print("Moving to Room B...")

print("Cleaning Room B...")

room\_B = 'Clean'

elif location == 'B':

if room\_B == 'Dirty':

print("Cleaning Room B...")

room\_B = 'Clean'

if room\_A == 'Dirty':

print("Moving to Room A...")

print("Cleaning Room A...")

room\_A = 'Clean'

print("\nFinal State:")

print(f"Room A is {room\_A}")

print(f"Room B is {room\_B}")

print("Both rooms are now clean! ✅")

# Run the vacuum cleaner simulation

vacuum\_cleaner()

OUTPUT:

