Week 2

Solving vacuum cleaner.

CODE:
```python
class VacuumCleanerAgent:
    def __init__(self):

        self.rooms = {'Room A': 0, 'Room B': 0}
        self.current_room = 'Room A'

    def display_status(self):
        print("\nCurrent Room:", self.current_room)
        print("Room Status:", self.rooms)

    def clean_room(self):
        if self.rooms[self.current_room] == 0:
            print(f"\nCleaning {self.current_room}...")
            self.rooms[self.current_room] = 1
            print(f"{self.current_room} is now clean.")
        else:
            print(f"\n{self.current_room} is already clean.")

    def move_to_next_room(self):
        if self.current_room == 'Room A':
            self.current_room = 'Room B'
            print("\nMoving to Room B.")
        elif self.current_room == 'Room B':
            self.current_room = 'Room A'
            print("\nMoving to Room A.")

    def are_all_rooms_clean(self):
        return all(status == 1 for status in self.rooms.values())

agent = VacuumCleanerAgent()

while not agent.are_all_rooms_clean():
    agent.display_status()
    user_input = input("Enter action (clean/move/clean and move): ").lower()
```

```python
    if user_input == 'clean':
        agent.clean_room()
    elif user_input == 'move':
        agent.move_to_next_room()
    elif user_input == 'clean and move':
        agent.clean_room()
        if not agent.are_all_rooms_clean():
            agent.move_to_next_room()
    else:
        print("\nInvalid input. Please enter 'clean', 'move', or 'clean
and move'.")

print("\nAll rooms are clean! Simulation finished.")
```

```
Current Room: Room A
Room Status: {'Room A': 0, 'Room B': 0}
Enter action (clean/move/clean and move): clean

Cleaning Room A...
Room A is now clean.

Current Room: Room A
Room Status: {'Room A': 1, 'Room B': 0}
```

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