

## Code Overview

- Database setup
  - Import sqlite3 library so interaction with DB is possible
  - Connection made to supermaids.db
    - If not there creates it
- Schema creation
  - Resets tables for clean start
  - Makes tables (clients, employees, equipment, requirements, requires\_equipment, assigned\_to)
  - PK, FK, etc all info from part 2 implemented
  - Domain constraints
    - Salary >0
    - Cost >= 0
    - Valid equipment status values
    - Valid priority values
    - Valid role values
    - Occasions needed <= total occasions
- Sample data
  - 5 tuples
    - Clients
      - Client number, name, addr, phone, preferences, feedback
    - Employees
      - Staff number, name, addr, salary, phone
    - Equipment
      - Description, usage, cost, status
    - Requirements
      - Each references valid clientNo
      - Start date, time, duration, comments, priority
    - Requires equipment
      - Many to many relationship for employees and requirements
    - Assigned to
      - Many to many relationship for employees and requirements
- Table display
  - Created simple helper function for nice printing
- 5 transactions (queries)
  - Register new client

- Create and schedule a requirement
- Specifiy equipment needed
- Assign staff to a requirement
- Use feedback to influence future assignments
- Close database connection

```

==== Clients ====
clientNo | firstName | lastName | address | phoneNumber | preferences | feedback
-----
C001 | Alice | Campos | 123 Main St | 305-111-1111 | eco-friendly products | Great service so far
C002 | Brian | Lopez | 45 Sunset Ave | 305-222-2222 | evening only | NULL
C003 | Carla | Nguyen | 78 Ocean Dr | 305-333-3333 | NULL | Unhappy with last cleaner
C004 | David | Singh | 90 Pine Rd | 305-444-4444 | pet safe | Loves team leader Emma
C005 | Ella | Martin | 12 Elm St | 305-555-5555 | low noise equipment | NULL

==== Employees ====
staffNo | firstName | lastName | address | salary | phoneNumber
-----
S001 | Emma | Reyes | 1 Oak St | 22.5 | 786-111-1111
S002 | Jared | Kim | 2 Oak St | 18.0 | 786-222-2222
S003 | Natalie | Stone | 3 Oak St | 19.75 | 786-333-3333
S004 | Omar | Diaz | 4 Oak St | 21.0 | 786-444-4444
S005 | Priya | Patel | 5 Oak St | 17.25 | 786-555-5555

==== Equipment ====
equipmentID | description | usage | cost | status
-----
E001 | Industrial floor cleaner | floors | 1500.0 | available
E002 | Steam cleaner | bathrooms | 900.0 | available
E003 | Vacuum | carpets | 400.0 | in_use
E004 | Mop set | general | 120.0 | available
E005 | Eco-friendly sprayer | surfaces | 250.0 | maintenance

==== Requirements ====
requirementID | clientNo | startDate | startTime | duration | comments | priority
-----
R001 | C001 | 2025-01-05 | 09:00 | 180 | Weekly full clean | high
R002 | C002 | 2025-01-05 | 18:00 | 120 | Evening office clean | medium
R003 | C003 | 2025-01-06 | 18:00 | 90 | Kitchen and bathrooms | high
R004 | C004 | 2025-01-06 | 13:00 | 120 | Pet-friendly deep clean | high
R005 | C005 | 2025-01-07 | 08:30 | 60 | Quick morning tidy | low

==== Requires_Equipment ====
requirementID | equipmentID | quantityNeeded | occasionsNeeded | totalOccurrences
-----
R001 | E001 | 2 | 4 | 4
R001 | E004 | 4 | 4 | 4
R002 | E003 | 3 | 2 | 2
R003 | E002 | 1 | 1 | 1
R004 | E005 | 1 | 1 | 1

==== Assigned_To ====
staffNo | requirementID | role
-----
S001 | R001 | team_leader
S002 | R001 | cleaner
S003 | R002 | team_leader
S004 | R003 | team_leader
S005 | R004 | trainee

```

[Toggle Gemini](#)

Database created

```
...
    Requirements for client C001
    ('R001', '2025-01-05', '09:00', 180, 'high', 'Weekly full clean')

    Schedule for 2025-01-05
    ('R001', 'C001', 'Alice Campos', '09:00', 180, 'high')
    ('R002', 'C002', 'Brian Lopez', '18:00', 120, 'medium')

    Equipment for requirement R001
    ('E001', 'Industrial floor cleaner', 2, 4, 4, 'available')
    ('E004', 'Mop set', 4, 4, 4, 'available')

    Staff assigned to requirement R001
    ('S001', 'Emma Reyes', 'team leader')
    ('S002', 'Jared Kim', 'cleaner')

    Employees who have worked for client C003
    ('S004', 'Omar Diaz')
```

## Proof of the 5 transactions