SQL Cheat Sheet (Beginner → Intermediate) For Flask Developers

SQL Basics

```
CREATE DATABASE app_db;
USE app_db;

CREATE TABLE users (
    id INT PRIMARY KEY AUTO_INCREMENT,
    username VARCHAR(50) UNIQUE NOT NULL,
    email VARCHAR(100),
    password_hash VARCHAR(255),
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

CRUD Operations

```
INSERT INTO users (username, email, password_hash)
VALUES ('shankar', 'mail@test.com', 'hash');

SELECT * FROM users;

UPDATE users SET email='new@mail.com' WHERE id=1;

DELETE FROM users WHERE id=1;
```

Filtering & Sorting

```
SELECT * FROM users WHERE id > 5;
SELECT * FROM users ORDER BY created_at DESC;
SELECT * FROM users LIMIT 5;
```

Joins

```
SELECT users.username, orders.amount
FROM users
INNER JOIN orders ON users.id = orders.user_id;
```

Indexes & Constraints

```
CREATE INDEX idx_username ON users(username);

FOREIGN KEY (user_id) REFERENCES users(id);
```

Flask + SQLite

```
import sqlite3
conn = sqlite3.connect("app.db")
cursor = conn.cursor()
cursor.execute("SELECT * FROM users")
conn.close()
```

Flask + MySQL

```python
import mysql.connector
conn = mysql.connector.connect(
    host="localhost",
    user="root",
    password="password",
    database="app_db"
)
```

Flask + SQLAlchemy

```python
from flask_sqlalchemy import SQLAlchemy
db = SQLAlchemy(app)

users = User.query.all()
```

```python
import mysql.connector
conn = mysql.connector.connect(
    host="localhost",
    user="root",
    password="password",
    database="app_db"
)
```