

100-Day Python + SQL + Data Analysis Project Kit

Overview

- **Duration:** 100 Days
 - **Daily Goal:** Build one mini project using Python, SQL, and data analysis concepts.
 - **Time Required:** ~1.5 to 2 hours/day
 - **Outcome:** 100 real-world mini-projects on GitHub/portfolio, deep skill development
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Folder Structure (GitHub)

```
100-data-projects/  
├── Day01_Customer_Orders_Analysis/  
│   ├── data.csv  
│   ├── script.py  
│   ├── queries.sql  
│   └── README.md  
├── Day02_Movie_Ratings_EDA/  
│   └── ...  
└── Day100_Final_Challenge/
```

Project Checklist Template (Daily)

Each README.md can follow this format:

```
# Day XX - Project Title  
  
## 🐛 Objective  
Brief description of what this project does.  
  
## 🦉 Dataset  
- Source: [Kaggle / Custom / API]  
- Description: [Describe columns briefly]  
  
## 🐒 Python Tasks  
- [ ] Data cleaning with pandas  
- [ ] Null handling, filtering, renaming  
- [ ] Data transformation
```

🌐 SQL Tasks

- [] Load data into SQLite/PostgreSQL
- [] Write at least 3 analytical queries
- [] Use: GROUP BY, JOINS, CASE, WINDOW, etc.

🐘 Insights

- Bullet points summarizing key findings

🐼 Bonus

- Add visualizations or Streamlit dashboards if possible

🌞 100 Mini Project Ideas (Grouped by Theme)

Week 1: Retail & Sales

1. Customer Orders Summary
2. Product Category Breakdown
3. Monthly Revenue Trends
4. Top 10 Customers by Spend
5. Basket Size Analysis
6. Refund & Returns Ratio
7. Promotion Effectiveness

Week 2: Movies & TV Data

1. IMDb Ratings by Genre
2. Netflix Originals Tracker
3. Movie Language Trends
4. Box Office Revenue Comparison
5. Actor Popularity by Role Count
6. Top 100 Highest Rated Movies
7. Rotten Tomatoes vs IMDb Correlation

Week 3: Health & COVID

1. Country-wise COVID Spread
2. Hospital Bed Availability Stats
3. Vaccination Campaign Outcomes
4. Monthly Case Trends by Continent
5. Mortality Rate Comparisons
6. COVID vs Flu Analysis
7. Health Campaign Efficacy

Week 4: Finance & Stocks

1. Monthly Stock Price Analysis

2. Compare Crypto Price Trends
3. Revenue vs Expenses EDA
4. Budget Forecasting with SQL
5. Loan Approval Analysis
6. Customer Investment Distribution
7. Expense Tracker Summary

Week 5: Sports & Games

1. IPL Team Performance Summary
2. Player Scorecard Tracker
3. Olympics Medal Heatmap
4. FIFA Goals Analysis
5. Chess Match Outcomes
6. Win Ratio by Country
7. Fantasy League Data Explorer

Week 6: Education & Students

1. Student Grade Summary
2. Attendance Heatmap
3. Subject-wise Performance
4. Teacher-to-Student Ratio
5. Dropout Rate Predictor
6. Exam Result Analyzer
7. Scholarship Eligibility Check

Week 7: E-commerce

1. Wishlist Conversion Rate
2. Cart Abandonment Tracker
3. Top Selling Products by Region
4. Inventory vs Sales Mismatch
5. Warehouse Fulfillment Rate
6. Payment Method Usage
7. Coupon Redemption Rate

Week 8: Environment

1. CO2 Emissions Trend by Country
2. Weather Pattern EDA
3. Forest Area Loss Stats
4. Renewable Energy Use by Country
5. Air Quality Index Trends
6. Waste Disposal Patterns
7. Water Scarcity Tracker

Week 9: Social Media / Internet

1. Tweet Sentiment EDA
2. Hashtag Frequency Counter
3. Followers Growth Over Time
4. Viral Content Traits
5. YouTube View Pattern Analysis
6. Reddit Upvote Predictor
7. LinkedIn Post Reach Summary

Week 10: HR & Jobs

1. Employee Salary Distribution
2. Churn Analysis
3. Hiring Funnel Tracker
4. Department Budget Allocation
5. Skill Gap Analyzer
6. Interview Round Conversion Rate
7. Work From Home Stats

Week 11: Shopping Trends

1. Weekly Store Revenue Dashboard
2. Product Price Range Tracker
3. Discount vs Sales Comparison
4. Customer Loyalty Score
5. In-store vs Online Spend
6. Regional Buying Patterns
7. Return Reason Classifier

Week 12: Travel / Transport

1. Flight Delay Analytics
2. Hotel Booking EDA
3. Cab Fare Insights
4. Train Occupancy Trends
5. Fuel Consumption Log
6. Route Optimization Patterns
7. Travel Expense Tracker

Week 13: Food & Lifestyle

1. Diet Plan EDA
2. Restaurant Ratings Breakdown
3. Favorite Cuisines Heatmap
4. Grocery Spend Summary
5. Food Delivery Delay Stats
6. Calorie vs Activity Correlation
7. Shopping Basket Insights

Week 14: Real Estate

1. Housing Price Analysis
2. Rent vs Own Ratio
3. Area-wise Property Demand
4. Agent Performance Tracker
5. Construction Cost Trends
6. Interest Rate Impact Study
7. Real Estate Fraud Detector

Week 15: Final Week Challenges

1. End-to-End Sales Dashboard w/ Python + SQL + Power BI
2. Open-ended Project: Pick a dataset, write a full case study with Python, SQL, visualizations, and insights.

Skill Rotation (Repeat Across Days)

- **Mon/Wed/Fri:** Emphasize SQL Querying + Python
- **Tue/Thu:** Include Visualizations / API Data
- **Sat/Sun:** Focus on Storytelling + Clean GitHub commits

Optional: Tracking Sheet

Create a Google Sheet or Notion with:

Day	Project Title	SQL Skill Used	Python Concept	Done?	Link
1	Customer Orders Summary	JOINS	Pandas read_csv	<input checked="" type="checkbox"/>	GitHub Link

Final Notes

- Don't aim for perfect. Aim for **daily shipping**.
- Consistency > Complexity
- At Day 100, you'll have:
 - 100 GitHub commits
 - 100 SQL scripts
 - 100 Python scripts
- A portfolio that screams: "**Hire me.**"