

Task: Build Fitness Club Analytics Dashboard Using SQL & Power BI

Objective

Design a complete data pipeline starting from creating database tables in SQL, inserting sample data, then connecting the database to Power BI and building a dashboard showing business insights.

Part 1 : Database Design (SQL)

Create a New Database (MaxFitDB)

Required Tables & Attributes

Members:

Attribute	Type
MemberID (PK)	INT
FullName	VARCHAR(100)
Gender	VARCHAR(10)
JoinDate	DATE
MembershipTypeID (FK)	INT
Phone	VARCHAR(20)

MembershipTypes:

Attribute	Type
MembershipTypeID (PK)	INT
TypeName	VARCHAR(50)
Price	DECIMAL(10,2)

Trainers:

Attribute	Type
TrainerID (PK)	INT
FullName	VARCHAR(100)
Specialty	VARCHAR(50)
Salary	DECIMAL(10,2)

Classes:

Attribute	Type
ClassID (PK)	INT
ClassName	VARCHAR(50)
TrainerID (FK)	INT
Schedule	VARCHAR(50)
Capacity	INT

Attendance:

Attribute	Type
AttendanceID (PK)	INT
MemberID (FK)	INT
ClassID (FK)	INT
Date	DATE
Status	VARCHAR(10)

Payments:

Attribute	Type
PaymentID (PK)	INT
MemberID (FK)	INT
Amount	DECIMAL(10,2)
PaymentDate	DATE
PaymentMethod	VARCHAR(20)

ERD Relationships (Required):

Relationship	Type
Members → MembershipTypes	Many-to-One
Classes → Trainers	Many-to-One
Attendance → Members	Many-to-One
Attendance → Classes	Many-to-One
Payments → Members	Many-to-One

Part 2 : Required SQL Deliverables

Insert at least **50 sample rows**

Calculate the following:

Total members -> COUNT

Total revenue -> SUM

Attendance per class -> GROUP BY

Top paid membership type -> ORDER BY

Part 3 : Power BI Dashboard Requirements

Required Visuals

Metric	Visual
Total Members	Card
Total Revenue	Card
Revenue Over Time	Line Chart
Members per Membership Type	Doughnut/Bar
Attendance by Class	Column Chart
Trainer Workload	Bar/Matrix

Required Features

- Slicers: Date, Membership Type, Class
- Relationships in Model View
- DAX Measures

Final Deliverables (To Submit)

Item	Format
SQL Script (Tables + Inserts)	.sql
Power BI File	.pbix
Screenshots of Dashboard	PNG/JPG