Data Analyst Training Programme

Introduction to Data Analysis

Introduction to Databases

What is a Database?

- Organised collection of structured information
- Electronic storage system for data
- Enables efficient data retrieval and management

Why Databases Matter for Data Analysts

- Single source of truth for business data
- Consistent data format and structure
- Scalable data storage solution

Database Types & Architecture

Relational Databases (RDBMS)

- Tables with rows and columns
- Relationships between tables
- Examples: **MySQL**, **PostgreSQL**, **SQL Server**

Key Components

- Tables (store data)
- Primary Keys (unique identifiers)
- Foreign Keys (table relationships)

Database Setup & Environment

Setting Up Your Development Environment

- MySQL Workbench installation
- Database connection configuration
- Sample database setup (Northwind/AdventureWorks)

Essential Tools

- Query editor interface
- Object explorer navigation
- Results pane understanding

Basic Database Concepts

Data Types

- **Text**: VARCHAR, CHAR, TEXT
- **Numbers**: INT, DECIMAL, FLOAT
- **Dates**: DATE, DATETIME, TIMESTAMP
- **Boolean**: BIT, BOOLEAN

Table Structure

- Schema design principles
- Column constraints
- Indexing basics

Your First Database Interaction

Connecting to Sample Database

- Server connection setup
- Database selection
- Table exploration

Next Week Preview

- Writing your first **SELECT** statement
- Retrieving data from tables
- Basic filtering techniques

Until Next Week Sunday...

See you next week on Sunday, **[student name]**. Do not forget to read up on databases, their importance, and especially how billion-dollar businesses use them to store, process, and retrieve [customer] data.

Thank you, [student name].

Any Questions?