EDA & **Analytics Project**

**OVERVIEW:**

A comprehensive collection of SQL scripts for data exploration, analytics, and reporting. These scripts cover various analyses such as database exploration, measures and metrics, time-based trends, cumulative analytics, segmentation, and more. This repository contains SQL queries designed to help data analysts and BI professionals quickly explore, segment, and analyze data within a relational database. Each script focuses on a specific analytical theme and demonstrates best practices for SQL queries.

DATASET:

This project uses three Tables such as

1. Customers
2. Sales
3. Products

Customer table contains:

customer\_key  
customer\_id  
customer\_number  
first\_name  
last\_name  
country  
marital\_status  
gender  
birthdate  
create\_date

sales table contains:

order\_number  
product\_key  
customer\_key  
order\_date  
shipping\_date  
due\_date  
sales\_amount  
quantity  
price

product table contains:

product\_key  
product\_id  
product\_number  
product\_name  
category\_id  
category  
subcategory  
maintenance  
cost  
product\_line  
start\_date

**Project Flow: Data Analytics Process:**

This project follows a structured Data Analytics Workflow, divided into two key phases: Exploratory Data Analysis (EDA) and Advanced Analytics.

1. Exploratory Data Analysis (EDA):

The first phase focuses on understanding the dataset, identifying patterns, and uncovering key data characteristics.  
It includes the following steps:

* Database Exploration
* Dimensions Exploration
* Date Exploration
* Measures Exploration
* Magnitude Analysis
* Ranking (Top N / Bottom N)

1. Advanced Analytics:

The second phase involves deriving deeper insights and evaluating performance through analytical methods.  
It covers:

* Change-Over-Time (Trends)
* Cumulative Analysis
* Performance Analysis
* Part-to-Whole (Proportional) Analysis
* Data Segmentation
* Reporting

**Tools and Skills Used:**

**Tools**:

Microsoft Excel – utilized for initial data cleaning, validation, and exploratory data analysis.

SQL – used extensively for data extraction, transformation, and advanced analytical queries.

Tools

**Skills and Techniques:**

* Data validation and data quality checks
* Writing SQL queries using fundamental and advanced concepts including:
* Basic statements (SELECT, WHERE, GROUP BY, ORDER BY)
* Joins
* Views
* subqueries
* CASE WHEN statements for conditional logic
* Common Table Expressions (CTE)
* Window functions
* Proportional and performance analysis for deriving insights

**For detailed information, please refer to the *Queries and Answers* file located in the project folder.**