

# Module 1 DBMS Extensions and Example Data Warehouses

Lesson 2: Course topics and assignments



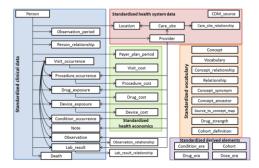
# Lesson Objectives

- Understand course topics and flow
- Understand assessments especially practice and graded problems
- Install PostgreSQL or configure Oracle cloud account and install SQL Developer



## Course Artifacts

#### 1: Example DWs



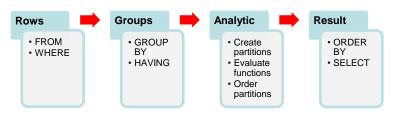
#### 2: SQL Subtotal Operators



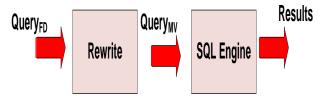




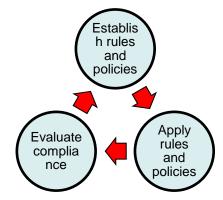
#### 3: SQL Analytic Functions



#### 4: Materialized Views



#### **5: Data Governance**



#### 6: SQL for Data Mining Input









### Course Flow

**DBMS** extensions **Module 1**  Schema patterns Example data warehouses GROUP BY review Module 2 Basic SQL subtotal operators Advanced SQL subtotal operators Analytic function processing Module 3 Basic SQL analytic functions Advanced SQL analytic functions Traditional views Module 4 Materialized view processing and design Query rewriting Big data Module 5 Physical design Data governance SQL for association rule mining input Module 6 SQL for training data in classification algorithms (optional)





# Assignments SQL Subtotal Operators

SELECT State, Month, SUM(Sales)

. . .

GROUP BY ROLLUP(State, Month)

#### **SQL Analytic Functions**

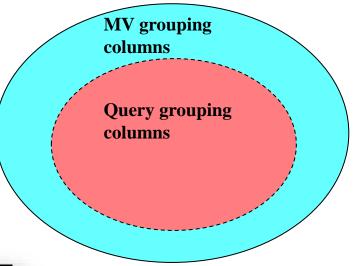
SELECT CustState, CustName,
SUM(SalesDollar) AS SumSales,
RANK() OVER (PARTITION BY CustState
ORDER BY SUM(SalesDollar) DESC)
SalesRank

...

#### **SQL** for Data Mining Input

SELECT OrdNo, ARRAY\_AGG(ProdNo ORDER BY ProdNo) AS ProdNoList FROM OrdLine GROUP BY OrdNo HAVING COUNT(\*) > 1 ORDER BY OrdNo;

#### **Query Rewriting**





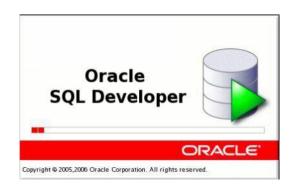




# Tools











# Summary

- Unified coverage of relational database support
- Coverage of important data warehouse administration topics
- Assignments for query formulation and materialized view usage
- Use an SQL client to submit statements to an Oracle or PostgreSQL server



