# RDBMS & SQL.

106 Hrs

Program Description: Career

The standard age-old time-tested technology for Data Storage, Relational Databases have come a long way. To inline their designs with the contemporary Object-Oriented Programming languages these databases now fall under the category of ORDBMS (Object Relational Database Management Systems). SQL, the querying language has evolved into a powerful tool to perform manipulations on massive data stores to facilitate searching, sorting, grouping and analysing data.
This course fully covers the RDBMS methodology from Database Design to the various operations that can be performed on the data.

Course Contents

**Concept of Related and structured data.** [120 Minutes]

- Problems in data representation
  - Redundancy
  - Ambiguity
  - Security
- Structured data to rescue.
  - Entity-Attributes
    - Entity breakdown on the basis of Normalisation
    - Rules of 1NF/2NF/3NF/BCNF
    - Relating entities to maintain Integrity
    - Relational database
    - Functions of RDBMS
    - Structured Query language

Sections of SQL based on process

- DDL
- DML
- TCL
- Datatypes in SQL
- Operators in SQL
  - Unary
  - Comparison
  - Bitwise
  - Arithmetic
  - Logical
- Operator Precedence

**DML** [480 Mins]

- Select statement
  - Display data from all columns
  - Display data from only selected columns
  - Displaying Custom titles for selected columns.
  - String literal concatenation using the concatenation operator.
- Sorting using Order by clause/Asc&Desc
- Where Clause
  - SQL operators- Arithmetic, Logical, Comparison and the Concatenation operator
  - Distinct Keyword
  - Refining search using IN, BETWEEN keywords and Wild Cards(%,_)
- Case – When....then expression for conditional evaluation of expressions in SQL Queries.
- Decode to select data conditionally in SQL queries

**Functions** [480 Mins]

- String functions
- Aggregate functions
- Date functions

**Group by clause** [120 Mins]

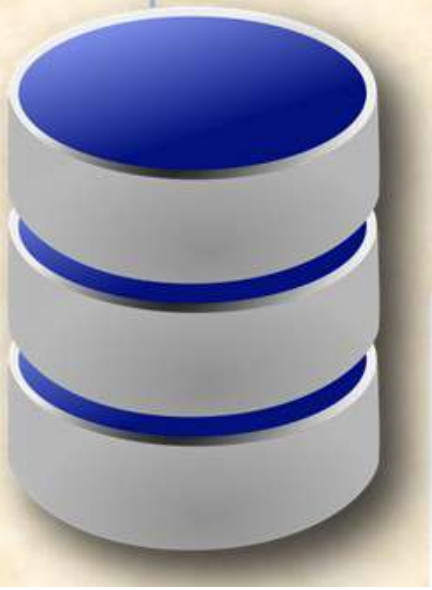
- Identify grouping criteria
- Filtering using Having clause.

**Other database objects [480 Mins]**

- Tables
- Views
- Sequences
- Triggers
- Clusters
- Procedures
- Constraints

**DDL- Create/Update/Delete/Truncate [480 Mins]**

- Derived Tables
- Concept of constraints- Primary Key, Foreign Key, Not Null, Check, Unique. Table level constraints, Column level constraints.
- Understanding On delete cascade/On delete set null options for foreign key.



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