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Topic: Data warehouse & SQL

Solution:

1. Data Warehousing

- **Defination:** Data Warehouse is a database used for data reporting and analysis.

- **DSS VS OPERATIONAL DATA:**

  The DSS data which is extracted from multiple sources differ from operational data in three main areas:
  -time span,
  -granularity,
  - dimensionality.

- **Data Marts:**

  The data mart is a *subset* of the data warehouse that is usually oriented to a specific business

- **OLAP:**

  OLAP is an approach to answer multi-dimensional analytical queries which also encompasses relational reporting and data mining.

  The data in Data Warehouse is arranged in the form of hierarchical groups often called dimensions and into facts tables and aggregate facts.

- **OLAP Server generally performs data analysis in two forms.**
  -ROLAP(Relational OLAP)
  -MOLAP(Multi-dimensional OLAP)
- **ROLAP:**

  It is a form of OLAP that performs dynamic multi- dimensional analysis of data stored in a **relational database** rather than in a multi-dimensional database

- **MOLAP:**

  It is a form of OLAP that helps the user to **"slice and dice"** information, providing multi-dimensional analysis of data by putting data in a cube structure.

2.SOL:

- **RDBMS:**
  - A database management system (DBMS) defines, creates, and maintains a database.
  - RDBMS data is structured in database tables, fields and records.

- **Different Types of Database:**
  - Relational databases
  - Operational Databases
  - Database Warehouses
  - Distributed Databases
  - End-User Databases

- **Features of MySQL:**
  - MySQL is written in C and C++ and its SQL parser is written in yacc(Yet Another Compiler Compiler).
  - MySQL uses only just under 1 MB of RAM on your laptop while Oracle 9i installation uses 128 MB
  - MySQL is great for database enabled websites while Oracle is made for enterprises.
  - MySQL is portable.
  - MySQL default port number is 3306.