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PRN : - 2020BTECS00042

BATCH : - S3

SUB :- DATA BASE ENGINNERING LAB ASSIGNMENT 1

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Experiment 1.

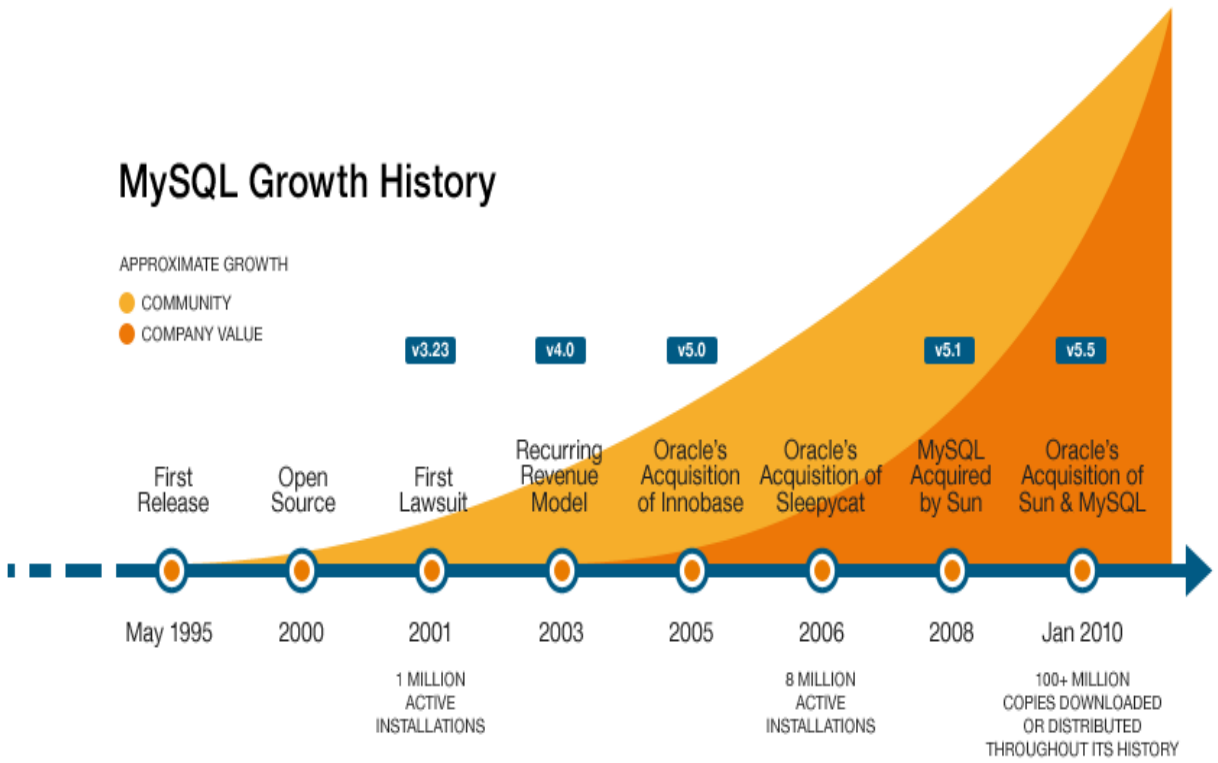
TITLE: - STUDY OF OPEN SOURCE AND COMMERCIAL DATABASE

1. **Open-Source Database:** An open-source database is a database that anyone can open and free to download. No Authorized Licence are required.
   e.g., **MYSQL, PostgreSQL, MongoDB etc**.

1)**MySQL:**

History :-

MySQL was created by a Swedish company MySQL AB in 1995. The developers of the platform were Michael Widenius , David Axmark and Allan Larsson. The purpose of developing is to provide efficient and reliable data management options to home and professional users.



Introduction:-

It is a relational database system. MySQL is open-source and free software under the GNU license. It is supported by **Oracle Company**. It is fast, scalable, and easy to use database management system. It is used in conjunction with PHP scripts for server-side and web-based application. It allows us to implement database operations on tables, rows, columns, and indexes.

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Basic Query used in SQL

1. SELECT - extracts data from a database
2. UPDATE - updates data in a database
3. DELETE - deletes data from a database
4. INSERT INTO - inserts new data into a database
5. CREATE DATABASE - creates a new database
6. ALTER DATABASE - modifies a database
7. CREATE TABLE - creates a new table
8. ALTER TABLE - modifies a table
9. DROP TABLE - deletes a table
10. CREATE INDEX - creates an index (search key)
11. DROP INDEX - deletes an index

Advantage:

1) Fast and high-performance Database, Easy to use and Easy to maintain.
2)MySQL provide Provides scalability, usability and reliability.
3) Accuracy and Efficiency is more.
4) Provides minimized code repetition

Disadvantage:

1)MySQL does not support a very large database size as efficiently.
2) It suffers from poor performance scaling.
3)Difficult to debug and maintain.

2. Commercial Database: Commercial database are that which has been created for Commercial Purpose and They are premium and are not free like open-source database. Authorized Licence are required. **e.**g., Oracle, IBM DB2 etc.

IBM DB2:

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History:-

Db2 or Database 2, is a collection of relational database solutions developed by IBM and delivered on the mainframe platform. It is a Relational Database Management System (RDBMS) that is used to efficiently store, analyze, and retrieve data.

DB2 was originally exclusively available on IBM mainframes, but by the 1990s, it had migrated to a variety of other platforms, including LUW (Linux, Unix, Windows), i5/OS, and even PDAs. The Universal Server moved the technology to an object-related SQL DBMS, allowing developers to create custom data types from more primitive ones.

Db2 solutions include operational databases, data warehouses, data lakes, and rapid data. It also includes Object-Oriented features and non-relational structure. The Db2 family helps your organization explore the value of AI by making your data simple and accessible.

Introduction

DB2 is a database product from IBM. It is a Relational Database Management System (RDBMS). DB2 is designed to store, analyse and retrieve the data efficiently. DB2 product is extended with the support of Object-Oriented features and non-relational structures with XML. The products feature AI-powered capabilities to help modernize the management of both structured and unstructured data across on premises and multicolour environments.

IBM Db2 data management product package, which contains the following tools:

- **Db2 Database**
- **Db2 Warehouse**
- **Db2 on Cloud**
- **Db2 Warehouse on Cloud**
- **Db2 Big SQL**
- **Db2 Event Store**

Advantage:

1) Reliable and secure.
2)Excellent performance.
3)Cross platform.
4)Accessing is significantly faster.
5)Redundancy is significantly low.

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Disadvantage:

1)Lack of modern client tool to connect and query database.
2)Debugging is difficult.
3)Licensing is a bit expensive, and support is paid.

Open-source database is choose as compared to commercial DBMS because open-Source database is cheaper, more secure and preferred and better-quality source code.