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TE COMP-B

DBMS

ASSIGNMENT - I

TITLE: Study of open source relational databases : MySQL

INSTALLATION OF MYSQL ON WINDOWS:

i) Simply download the installer package and run the setup.exe file.

ii) Everything will be installed under C:\mysql.

iii) After MySQL has been installed, we can verify that everything is working via some simple steps:

① [root@host] # mysqladmin --version

This is used to check the server version.

② [root@host] # mysql

This will be rewarded with a 'mysql>' prompt. Now you're connected to the MySQL server and can execute all SQL commands.

eg: mysql> show databases;

Output:

```
+----------+
| Database |
+----------+
| mysql    |
| test     |
+----------+
2 rows in set (0.13 sec)
```

- Post Installation Steps:

i) A root password needs to be set by the user (i.e you) as follows:

[root@host] # mysqladmin -u root password "new-password",

ii) [root@host] # mysql -u root -p

Enter password: ****

This password will now have to be used everytime to access the Command Line Client.

THEORY:

- **Database**: A database is an organized collection of data which can be easily accessed, managed and updated.

- **Relational Database Management System (RDBMS)**: It is a software that enables you to implement database with tables, tuples & columns. It based on the relational model of data as proposed by E.F. Codd in 1970. It guarantees the referential integrity between rows of various tables and also updates indexes automatically. It interprets an SQL query & combines the information from various tables.

- **RDBMS Terminology**:
  i) Database: Organized collectim of data.
  ii) Table: A table is a matrix with data. It looks like a simple spreadsheet (.csv file).
  iii) Row: A row is a group of related data. It's also called as a tuple.
  iv) Column: One column contains data of one & the same kind
  v) Redundancy: The phenomena in which there exists duplicate records of any data is called redundancy. To make the system faster, redundancy should be removed.

- **MySQL Database**:
  i) It is a fast, easy-to-use RDBMS software used for small & large-scale data alike.
  ii) It is developed, marketed & supported by MySQL AB, a Swedish company.
  iii) It's an open source software.
  iv) It uses SQL language, which is well known everywhere.
  v) It is fast.
  vi) It is a very user friendly software.

MySQL COMMANDS:

i) use databasename: This is used to select a particular database to work upon.

ii) show databases: Shows all the accessible databases in the MySQL DBMS.

iii) show tables: Shows all the tables in the selected database.

iv) show columns from tablename: Shows the attributes & types, key information, defaults & other information for a table.

v) show index from tablename: Shows the details of all indices on the table, including primary key.

vi) show table status like tablename\G: Reports details of the MySQL DBMS performance & statistics.