

DBMS Vs RDBMS

Q 1. Tell me the exact differences between RDBMS and DBMS?

Ans: A DBMS has to be persistent, i.e. it should be accessible when the program created the data ceases to exist or even the application that created the data restarted. A DBMS also has to provide some uniform methods independent of a specific application for accessing the information that is stored.

RDBMS is a Relational Database Management System Relational DBMS. This adds the additional condition that the system supports a tabular structure for the data, with enforced relationships between the tables. This excludes the databases that don't support a tabular structure or don't enforce relationships between tables.

Many DBA's think that RDBMS is a Client Server Database system but that's not the case with RDBMS.

DBMS does not impose any constraints or security with regard to data manipulation. It is user's or the programmer's responsibility to ensure the ACID PROPERTY of the database whereas the rdbms is more with this regard because rdbms define the integrity constraint for the purpose of holding ACID PROPERTY.

Q 2. What is Stored Procedure?

Ans: A stored procedure is a named group of SQL statements that have been previously created and stored in the server database. Stored procedures accept input parameters so that a single procedure can be used over the network by several clients using different input data. And when the procedure is modified, all clients automatically get the new version. Stored procedures reduce network traffic and improve performance. Stored procedures can be used to help in ensuring the integrity of the database.

Q 3. Difference on the basis of data size they work upon.

Ans: GUID Short for Globally Unique Identifier, a unique 128-bit number that is produced by the Windows OS or by some Windows applications to identify a particular component, application, file, database entry, and/or user. For instance, a Web site may generate a GUID and assign it to a user's browser to record and track the session. A GUID is also used in Windows registry to identify COM DLLs. Knowing where to look in the registry and having the correct GUID yields lot information about a COM object (i.e., information in the type library, its physical location, etc.). Windows also identifies user accounts by a username (computer/domain and username) and assigns it a GUID. Some database administrators even will use GUIDs as primary key values in databases.

Q 4. Which is more secure and why?

Ans: RDBMS, Data security is the protection of the database from unauthorized users. Only the authorized persons are allowed to access the database. Most of the users are allowed to access a part of database i.e., the data that is related to them or related to their department. Mostly, the DBA or head of department can access all the data in the database. Some users may be permitted only to retrieve data, whereas others are allowed to retrieve as well as to update data. The database access is controlled by the DBA. He creates the accounts of users and gives rights to access the database. Typically, users or group of users are given usernames protected by passwords. Most of the DBMSs provide the security sub-system, which the DBA uses to create accounts of users and to specify account restrictions. The user enters his/her account number (or username) and password to access the data from database. For example, if you have an account in the "hotmail.com" (a popular website), then you have to give your correct username and password to access your account of e-mail. Similarly, when you insert your ATM card into the auto teller machine (ATM) in a bank, the machine reads your ID number printed on the card and then asks you to enter your pin code (or password). In this way you can access your account.

Q 5. Differentiate on basis of applications for which they are respectively used.

Ans: Database Management Systems have often been characterized as "Attribute Management Systems". Attributes are pieces of information (with unique values) that describe an object (for e.g. size, color, and shape) and combine many of the services necessary for advanced attribute management without the need for a variety of different programs.

Database Management Systems employ the use of a query language and report writers to interrogate the database and analyze its data. Queries allow users to search, sort, and analyze specific data by granting users efficient access to the required information. For example, one would use a query command to make the system retrieve data regarding all articles of clothing which come in the color blue. The most common query language used to access database systems is the Structured Query Language (SQL).

The DBMS also provides security features that protect against unauthorized users trying to gain access to confidential database information; and prevent data loss in case of a system crash. Depending on the settings, users are allowed access to either all, or specific database subschemas, through the use of passwords. For example, while a database may contain detailed customer information, certain users may only be allowed access to customer names and addresses, while others may be able to view payment specifications. Access and change logs can be programmed to add even more security to a database, recording the date, time and details of any user making any alteration to the database. Furthermore, the DBMS is also responsible for the database's integrity, ensuring that no two users are able to update the same record at the same time, as well as preventing duplicate entries, such as two employees being given the same employee number.

Q 6. Differentiate on the basis of Codd's rule.

Ans: DBMS-Database management system.

- =>In dbms, there is no relationship concept
- =>It can't implement constraints in table and no security of data.
- =>It supports Single User only
- =>It treats Data as Files internally
- =>It supports 3 rules of E.F.CODD out of 12 rules

=>It requires low Software and Hardware Requirements.

=>Examples: FoxPro

RDBMS-Relational management system

=>It is used to establish the relationship concept between two database objects, i.e, tables

=>It implement constraints in table and no security of data.

=>It supports multiple users

=>It treats data as Tables internally

=>It supports minimum 6 rules of E.F.CODD

=>It requires High software and hardware requirements.

=>examples: Oracle, MySQL, DB2.

Q 7. Why DBMS is used for single user & RDBMS for multi user.

Ans: **DBMS** is designed to be used by a single user, typically on a low - to - medium powered PC platform. Lotus Approach, Microsoft Access and dBase are examples of personal database software. Of course, the major DBMS vendors also market personal versions of their more high-powered solutions, Personal Oracle and DB2 Everyplace for example. Sometimes the low cost of a personal DBMS causes misguided attempts to choose a personal DBMS for a departmental or enterprise solution. But do not be lured by the low cost. A personal DBMS product is suited only for small scale projects and should not be used to deploy multi-user applications.

Q 8. Difference in DBMS and RDBMS on basis of ACID property.

Ans: ACID property is an important concept for databases. The acronym stands for Atomicity, Consistency, Isolation and Durability. The ACID properties of a DBMS allow safe sharing of data. Without these ACID properties, everyday occurrences such using computer systems to buy products would be difficult and the potential for inaccuracy would be huge. Imagine more than one person trying to buy the same size and color of a sweater at the same time -- a regular occurrence. The ACID properties make it possible for the merchant to keep these sweater purchasing transactions from overlapping each other -- saving the merchant from erroneous inventory and account balances.

Q 9. Is MS Access DBMS or RDBMS?

Ans: Microsoft Access is an application development tool, not a DBMS.

Access has some DBMS-like features (strictly, they are features of the Jet software, which happens to be bundled with Access and other Microsoft products). Those DBMS features are not relational because they are based on the SQL DBMS model rather than the RDBMS one.

Although SQL is partially inspired by the Relational Model it is non-relational in many important respects, especially because it uses a "tuple-bag" representation instead of the set-theory representation required by E.F.Codd's relational model. In other words SQL breaks what Codd called the "Information Rule".

Q 10. What data models are used for DBMS & RDBMS?

Ans: A data model is a collection of concepts that can be used to describe the structure of a database.

Data models can be broadly distinguished into 3 main categories-

- 1) **high-level or conceptual data models (based on entities & relationships)**- It provides concepts that are close to the way many users perceive data.
- 2) **Low level or physical data models**- It provides concepts that describe the details of how data is stored in the computer. These concepts are meant for computer specialist, not for typical end users.
- 3) Representational or implementation data models (record-based, object-oriented)

