DBMS Interview Questions

Theory Based DBMS Interview Questions

Ques: What is database?

Ans: A information may be a logically coherent assortment of information with some inherent that means, representing some facet of globe and that is meant, designed and inhabited with information for a selected purpose.

Ques: What is DBMS?

Ans: It is a set of programs that permits user to form and maintain a info. In alternative words its general computer code that has the users with the processes of shaping, constructing and manipulating the info for numerous applications.

Ques: What is a Database system?

Ans: The database and DBMS software together is called as Database system.

Ques: What are the advantages of DBMS?

Ans:

1. Redundancy is controlled.
2. Unauthorized access is restricted.
3. Providing multiple user interfaces.
4. Enforcing integrity constraints.
5. Providing backup and recovery.

Ques: What are the disadvantages in File Processing System?

Ans:

- Data redundancy and inconsistency.
- Difficult in accessing data.
- Data isolation.
- Data integrity.
- Concurrent access is not possible.
- Security Problems.

Ques: Describe the three levels of data abstraction?

Ans: There are three levels of abstraction:

1. Physical level: The lowest level of abstraction describes how data are stored.
2. Logical level: The next higher level of abstraction, describes what data are stored in database and what relationship among those data.
3. View level: The highest level of abstraction describes only part of entire database.

Ques: Define the "integrity rules"?

Ans: There are two Integrity rules.

1. Entity Integrity: States that "Primary key cannot have NULL value"
2. Referential Integrity: States that "Foreign Key can be either a NULL value or should be Primary Key value of other relation.

Ques: What is extension and intension?

Ans:

1. Extension: It is the number of tuples present in a table at any instance. This is time dependent.
2. Intension: It is a constant value that gives the name, structure of table and the constraints laid on it.

Ques: What is System R? What are its two major subsystems?

Ans: System R was designed and developed over a period of 1974-79 at IBM San Jose Research Center. It is a prototype and its purpose was to demonstrate that it is possible to build a Relational System that can be used in a real life environment to solve real life problems, with performance at least comparable to that of existing system.

Its two subsystems are:

- Research Storage
- System Relational Data System.

Ques: How is the data structure of System R different from the relational structure?

Ans: Unlike Relational systems in System R:

1. Domains are not supported
2. Enforcement of candidate key uniqueness is optional
3. Enforcement of entity integrity is optional
4. Referential integrity is not enforced

Ques: What is Join?

Ans: An SQL Join is used to combine data from two or more tables, based on a common field between them. For example, consider the following two tables.

Student Table

ENROLLNO	STUDENTNAME	ADDRESS
1000	geek1	geeksquiz1
1001	geek2	geeksquiz2
1002	geek3	geeksquiz3

Student Course Table

COURSEID	ENROLLNO
1	1000
2	1000
3	1000
1	1002
2	1003

Following is join query that shows names of students enrolled in different courseIDs.

```
SELECT StudentCourse.CourseID, Student.StudentName

FROM StudentCourse

INNER JOIN Customers

ON StudentCourse.EnrollNo = Student.EnrollNo

ORDER BY StudentCourse.CourseID;
```

The above query would produce following result.

COURSEID	STUDENTNAME
1	geek1
1	geek2
2	geek1
2	geek3
3	geek1

Ques: What is a view in SQL? How to create one

Ans: A view is a virtual table based on the result-set of an SQL statement. We can create using create view syntax.

```
CREATE VIEW view_name AS

SELECT column_name(s)

FROM table_name

WHERE condition
```

Ques. There is a table where only one row is fully repeated. Write a Query to find the repeated row

Name	Section
abc	CS1

bcd	CS2
abc	CS1

In the above table, we can find duplicate row using below query.

SELECT name, section FROM tbl

GROUP BY name, section

HAVING COUNT(*) > 1

Ques. What is the Query to find 2nd highest salary of an employee?

Ans:

SELECT max(salary) FROM EMPLOYEES WHERE salary IN

(SELECT salary FROM EMPLOYEEs MINUS SELECT max(salary)

FROM EMPLOYEES);

OR

SELECT max(salary) FROM EMPLOYEES WHERE

salary <> (SELECT max(salary) FROM EMPLOYEES);

Ques. Get employee details from employee table whose first name ends with 'n' and name contains 4 letters

Ans: Select * from EMPLOYEE where FIRST_NAME like '___n' (Underscores)

Ques. Get employee details from employee table whose first name starts with 'J' and name contains 4 letters

Ans: Select * from EMPLOYEE where FIRST_NAME like 'J___' (Underscores)

Ques. Get employee details from employee table whose Salary greater than 600000

Ans: Select * from EMPLOYEE where Salary >600000

Ques. Get employee details from employee table whose Salary less than 800000

Ans: Select * from EMPLOYEE where Salary <800000

Ques. Get employee details from employee table whose Salary between 500000 and 800000

Ans: Select * from EMPLOYEE where Salary between 500000 and 800000