

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