SQL Interview Questions

Q1. What is SQL?

Ans 1🡪SQL (structure Query Language) is used to store,retrieve and mange data in relational databse.

Q2.What is relational database?

Ans2🡪A database where data is stored in form of rows and columns.

Q3.Differnece Between SQL and MYSQL?

Ans3🡪SQL is the Language and MYSQL is a database management system that uses SQL.

Q4. What is a database?

Ans4🡪A set of rows and columns that store related data.

Q5.What is primary key?

Ans5🡪A column that uniquely identifies each row.

Q6. What is foreign Key?

Ans6🡪A Column linking one table to another.

Q7.What are constraints?

Ans7🡪Constraints are the rules that enforce data accuracy like Primary key, foreign key, unique ,Not NULL.

Q8.What are Different types of SQL Command?

Ans8🡪.DDL(create,Alter,DROP) --> structure.

.DM(insert,update,Delete)-->data.

.DCL(Grant,Revoke) --> permission

.TCL(commit,Rollback)-->transactions

Q9.Differnece between Delete, Truncate and Drop?

Ans9🡪.Delete ->removes rows but keeps structure ,can rollback.

.truncate->remove all rows, keeps structure can’t rollback.

.drop -> removes table completely.

Q10. Difference Between Where and Having clause?

Ans10🡪.Where ->filters before grouping.

.Having->filters after grouping.

Q11. Difference between Order BY and Group By?

Ans11🡪.Order by->sort rows.

.Group By ->Group rows for aggregation( for doing maths opertions like count,sum,total).

Q12. What is Distinct?

Ans12🡪Removes duplicates from result.

Q13.Explain all types of Joins?

Ans13🡪 .Inner Join -> gives matching rows in both tables.

.Left Join -> gives all rows from left + matching rows from right.

.Right Join -> gives all rows from right + matching rows from left.

Q14. What is Self join?

Ans14🡪 A table joins with itself.

Q15.what are Aggregate functions?

Ans15🡪Aggregate functions are used to perform math on sets of data Some of the aggregate functions are Count,AVG,Min,Max,Sum.

Q16.What are scaler functions?

Ans16🡪Scaler functions are the functions which operate on single values Some of them are upper,lower,len,now.

Q17Write a Query to find Highest Salary?

Ans17🡪Select Max(Salary) from employees.

Q18. Write a Query to count employees in each department.?

Ans18🡪Select department ,Count(\*) from employees.

Q19. What is SubQuery?

Ans19🡪SubQuery is a Query inside another query.

Q20. Difference between corelated vs Non-corelated ?

Ans20🡪.Corelated ->Query runs once per row.

.Non-corelated->Query runs once and it’s result is saved.

Q21.what is a view?

Ans21🡪A saved SQL query acting like a virtual table.

Q22.What is stored Procedure?

Ans22🡪It is pre-written SQL code stored in DB.

Q23. What is trigger?

Ans23🡪Trigger is auto-executed code on an event like insert.

Q24. What is Normalization?

Ans24🡪Normalization is Organizing data to reduce redundancy(1nf,2nf,3nf).

Q25. What is Redundancy?

Ans25🡪Redundancy is storing the same data in multiple places.

Q26.Difference Between Clustered vs Non-Clustered Index?

Ans26🡪.Clustered->It Rearranges table data.

.Non-Clustered->it Seprates structure with pointers.

Q27.How would you improve Query performance?

Ans27🡪By using Indexes, avoid Select\* ,optimize joins and limit results.

Q28.Write command to handle Null values?

Ans28🡪 ISNULL and ISNotNULL.

Q29.Write a SQL Query to find Duplicates?

Ans29🡪 Select name,count(\*) from employees Group By name Having count(\*) >1;

Q30.Write a Query to find the second highest salary?

Ans30🡪Select Max(Salary) as secondHighestSalary

From Employees

Where Salary <(select Max(salary) from employees

Q31.Write a SQL Query to find the number of employees in each department and sort the result by employee count in descending order?

Ans31🡪Select Department, Count(\*) as employeeCount

From Employees

Group BY Department

Order By employeeCount desc;

Q32.Write a MongoDB Query to find all employees in IT Department?

Ans32🡪db.employees.find({“Department:IT”});

Q33. Explain the difference Between SQL Join and MongoDB embedding/referencing?

Ans33. Join ->When we need to get related data from multiple tables we use join

Embedding->store related data inside one document(like student + address together)

Referencing-> store only an ID link to another document

In short we can say that SQL joins tables and MongoDB links documents.

Q34.Using Employee table write a query to find employees who joined in 2021?

Ans34🡪Select\* from employees where (JoinDate)=2021;

Q35. Write a Query to find avg salary of each department ,but only include departments where the Average Salary is more than 6000?

Ans35🡪Select Department,AVG(salary) AS AvgSalary

From employees

Group BY department

Having AVG(Salary) >6000;

Q36.Write a Query to find the top 2 highest salaries in the employees Table aloung with the employees names?

Ans36🡪Select name,salary

From employees

Order BY DESC

Limit 2;

Q37Write a Query to find employees who earn more than the avg salary of all employees?

Ans37🡪 Select name,salary

From employees

Where salary > (select AVG(salary) from employees);

Q38.Write a query to list the departments that have the highest number of employees?

Ans38🡪Select Department ,Count(\*) As EmployeeCount

From employees

Group BY department

Order BY EmployeeCount DESC

Limit 1;

Q39. Write a Query to find the names of employees who have the same salary as someone else in the company?

Ans39🡪Select name,salary

From employees

Where salary in (

Select salary

From Employees

Group BY Salary

Having Count(\*) >1

);

Q40. Write a query to Delete All Employees from HR Department?

Ans40🡪Delete From Employees where department =”HR”;