1. What is SQL?

#### What is a database?

#### What is an RDBMS, and how is it different from a traditional DBMS?

#### Explain the different types of SQL commands/SQL statements

#### What is constraint? What is the need of it?

#### What is the difference between Primary key and Foreign key

#### What is UNIQUE constraint

#### What we need if we wanted to retrieve the data from multiple tables? Can you write a simple query to retrieve the data from two tables.

#### What is the need of Joins?

#### What is Schema? What is instance? And what is their difference?

#### I wanted to filter a data from a table, How I do this? Can you write a simple query to filter a data from a table.

#### If I write this query:

#### *Select a.name, a.phone, sum(salary) from employee a*

#### Will above query will run successfully? If not why not? How to correct it?

#### I have employee table with columns, employee\_name, Salary with below structure

create table employee

(employee\_name varchar(10),

salary numeric )

#### I wanted to insert “employee\_name” in this table, I am writing this query, will this work? If not write proper query

#### Insert into employee values (‘Tejas’)

1. In employee table I wanted to write insert 10 multiple records of employee with different salary. Can you write this query.
2. I wanted to update salary of one particular employee(e.g. Tejas) to 10000, can you write the query for this.
3. Assume I have inserted the record of one employee – “Saurav” and “salary” as 2000 in the employee table. I want to remove this particular record from this table, can you write a query for this.
4. What is group by function? Why we need this, can you explain with one example.
5. Assume there is one table have many duplicate records, how we can remove duplicate records from a table. Write a query.
6. What is the difference between truncate and delete statement?
7. Why we need primary key and foreign key in a table? What is the exact difference between primary key and foreign key?
8. Are you aware about joins? What types of joins we have in SQL? Why we need joins?
9. What is a cartesian product in Join? Explain with examples
10. What is Cross join? Explain with example
11. What are different Data Control language commands.
12. I have one query which is taking too much time to run what are some of the things in the query we can consider, which will improve the performance of the queries.
13. I wanted to update the data in multiple columns in a table, can you write a query.
14. Why HAVING clause is needed? Can we write HAVING clause without the Group by function? Justify?
15. What Is subquery? Can you explain why subquery we should use? How it is different than Joins?
16. What is DISTINCT keyword? Where to use? What is its purpose ? can you write a query with usage of DISTINCT?
17. What is the difference between WHERE and HAVING clause?
18. What do you understand by functions?
19. What is scalar functions? What are different scalar functions in SQL?
20. Now assume following table structure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | First\_Name | Last\_Name | City | Family Income |
| 1 | Karen | Kole | Pune | 100000 |
| 2 | Ramesh | More | Mumbai | 400000 |
| 3 | Umesh | Nehal | Pune | 30000 |
| 4 | Ramen | Patil | Pune | 78000 |
| 5 | Meenakshi | Sharma | Nashik | 60000 |
| 6 | Lokesh | Kumar | Mumbai | 40000 |
| 7 | Uday | Yadav | Kolhapur | 1000000 |
| 8 | Rajintha | Jadhav | Nagpur | 4300000 |
| 9 | Priyanka | Pate | Nagpur | 130000 |
| 10 | Ajay | Gowda | Kolhapur | 40000 |
| 11 | Rohit | Saxena | Nagpur | 50000 |

1. Now you have to write a query to create this table name as “Family\_Details” with auto increment primary key on ID column. Insert the above data in that table.
2. Now I wanted to retrieve only records from “Family\_Details” table with City as “Kolhapur” please write a query for this.
3. Can you write q query where I wanted to get the totals of all employees with city wise. (Hint – use group by)
4. Can you update the family income of person “Uday” in the “Family\_Details” table to 500000
5. Can you retrieve the data from “Family\_details" table combining “First\_Name” and “Last\_name” as Full name, write a query
6. Can you retrieve the data from only Pune and Mumbai cities from “Family\_Details” table, write a query.
7. What are aggregate functions? Can you list them, have you used any of them? Explain with example
8. What is index? Why we need it?
9. What is alias in sql? How to use it?
10. I wanted to create another table with same structure as “Family\_Details”, only name will be different how I can do this?
11. I want to sort the data in “Family\_Details” by First\_name, how to do this? Write a SQL query
12. What is Manipulation of data in SQL, Why we need it?
13. What are different data types available in SQL?
14. What is difference between SQL and PL/SQL?
15. What is entities and relationships?

**New things to explore:**

### What are UNION, UNION ALL, MINUS, and INTERSECT set operators?

### What is a stored procedure?

What is SQL cursor? How do you use it?

What are ACID properties? Explain