

Codoid Interview Task - SQL

1) What are Scalar functions and write a query?

Scalar functions return a single value from an input value.

```
* UCASE() - SELECT UCASE(column_name) FROM table_name;
* LCASE() - SELECT LCASE(column_name) FROM table_name;
* MID()   - SELECT MID(column_name,start,length) FROM table_name;
* LEN()   - SELECT LENGTH(column_name) FROM table_name;
* ROUND() - SELECT ROUND(column_name,decimals) FROM table_name;
* NOW()   - SELECT NOW() FROM table_name;
* FORMAT() - SELECT FORMAT(column_name,format) FROM table_name;
```

2) Explain joins with example and output?

JOINS in SQL are commands which are used to combine rows from two or more tables,
based on a related column between those tables.

There are mainly four types of joins with example and output below,

"Consider the two tables Student, Student_Course"

```
* INNER JOIN - SELECT Student_Course.COURSE_ID, Student.NAME
               FROM Student INNER JOIN Student_Course ON
Student.ROLL_NO = Student_Course.ROLL_NO;
```

(OUTPUT = Returns records that have matching values in both tables)

```
* FULL JOIN - SELECT Student.NAME,Student_Course.COURSE_ID
              FROM Student FULL JOIN Student_Course ON
Student_Course.ROLL_NO = Student.ROLL_NO;
```

(OUTPUT = Returns all those records which either have a match in the student table or the student_course table)

```
* LEFT JOIN    - SELECT Student.NAME, Student_Course.COURSE_ID
                  FROM Student LEFT JOIN Student_Course ON
Student_Course.ROLL_NO = Student.ROLL_NO;
```

(OUTPUT = Returns all records from the Student table, and the matched records from the Student_Course table)

```
* RIGHT JOIN   - SELECT Student.NAME, Student_Course.COURSE_ID
                  FROM Student RIGHT JOIN Student_Course ON
Student_Course.ROLL_NO = Student.ROLL_NO;
```

(OUTPUT = Returns all records from the Student_Course table, and the matched records from the Student table)

3) Write a SQL query to Rename the column name?

```
ALTER TABLE table_name RENAME COLUMN oldcolumn_name to
newcolumn_name;
```

4) Write a SQL query to find duplicate records?

```
SELECT EmpID, COUNT(EmpID)
FROM Employees GROUP BY EmpID HAVING COUNT(EmpID) > 1;
```

5) How do we use the DISTINCT statement? What are its use?

DISTINCT clause is used to remove the duplicates columns.

```
SELECT DISTINCT Salary
FROM Employees;
```

* Uses : DISTINCT keyword to columns accepts only unique data values

6) Remove duplicate from the table?

```
SELECT DISTINCT * FROM Employee;
```

7) Print max salary for a particular department?

```
SELECT DEPT_ID, MAX(SALARY) FROM department GROUP BY DEPT_ID;
```

8) Use different operators in SQL?

- * SQL Arithmetic Operators (+, -, *, /, %)
- * SQL Bitwise Operators (&, |, ^)
- * SQL Comparison Operators (=, >, <, >=, <=, <>)
- * SQL Logical Operators (ALL, AND, ANY, BETWEEN, EXISTS, IN, LIKE, NOT, OR, SOME)

9) What is Query to display first 5 Records from Employee table?

```
SELECT TOP 5* FROM Employee;
```

(OR)

```
SELECT * FROM Employee where Rownum <= 5;
```

10) What is Query to display last 5 Records from Employee table?

```
SELECT * FROM (SELECT TOP 5 * FROM Employee ORDER BY ID DESC) ORDER  
BY id ASC;
```

(OR)

```
SELECT * FROM Employee where rownum <=5 union  
SELECT * FROM (SELECT * FROM Employee ORDER BY rowid desc) where  
rownum <=5;
```

11) How to fetch 3rd highest salary using Rank Function?

```
SELECT * FROM (Select Dense_Rank() OVER ( ORDER BY salary desc) AS  
ID from Employee) where ID=3;
```

12) How Can i create table with same structure with data of Employee table?

```
Create table Employee1 AS SELECT * FROM Employee;
```

13) Find Query to get information of Employee where Employee is not assigned to the department?

```
SELECT * FROM Employee where Dept_no Not in(SELECT Dept_no from  
Department);
```