

# SQL Interview Cheat Sheet for Ashutosh

## 1. What is SQL?

SQL ka full form hai Structured Query Language. Iska use database me data insert, update, delete aur retrieve karne ke liye hota hai.

## 2. Difference between WHERE and HAVING clause?

- WHERE: filter karta hai data ko before grouping.
- HAVING: filter karta hai grouped data ko.

## 3. GROUP BY ka use kya hai?

GROUP BY similar data ko group karta hai aur aggregate functions jaise COUNT, SUM ke saath use hota hai.

## 4. Joins kya hote hain?

- INNER JOIN: Matching rows dono tables se.
- LEFT JOIN: Left table ke sabhi rows + matching right table.
- RIGHT JOIN: Right table ke sabhi rows + matching left table.
- FULL OUTER JOIN: Dono ke sabhi rows.
- SELF JOIN: Table ko khud se join karna.

## 5. Primary key vs Unique key

- Primary key: Unique + Not Null. Ek hi hoti hai table me.
- Unique key: Unique hoti hai but null allowed hai. Multiple ho sakti hain.

## 6. Duplicate records kaise find karein?

```
SELECT column_name, COUNT(*) FROM table_name GROUP BY column_name HAVING COUNT(*) > 1;
```

## 7. Second highest salary ka query?

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`SELECT MAX(salary) FROM employees WHERE salary < (SELECT MAX(salary) FROM employees);`

## 8. Query slow ho to kya karte ho?

- EXPLAIN PLAN se query analyze karo
- Indexes check karo
- SELECT \* avoid karo
- Joins ko optimize karo
- Data partition ya archiving consider karo

## 9. View kya hoti hai?

View ek virtual table hoti hai jo ek SELECT query se banti hai. Security aur abstraction ke liye use hoti hai.

## 10. Index kya hota hai?

- Index query performance fast karta hai.
- Clustered index: data ko sort karta hai
- Non-clustered index: data pointer separate store karta hai