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Section 6 → Additional Concepts.

→ Substitution variables.
→ Column Alias

(1) → SQL provides many built-in functions to complete many tasks
→ Numeric fns, Character fns, Conversion fns, Date fns & Aggregate fns. Some other Misc fns too.

(2) Single Row fns → Select, where, Order by and Having. Eg:- Upper (a → A)
Multi Row fns → Select, Order by and Having.
Eg:- Sum (of all salary).

(i) Numeric fns → ABS, ROUND, CEIL, FLOOR

Eg:- SELECT City, Mintemp, CEIL(Mintemp) AS "ceiling" FROM WEATHER.

(ii) Char fns → UPPER, LOWER, CONCAT, LENGTH, SUBSTR

Eg:- SUBSTR('Database', start-pos, length) Name of SubStr created.
↓ Value

(iii) Conversion fns → TO_CHAR, TO_DATE, TO_NUMBER.

(iv) Date fns → SYSDATE, SYSTIMESTAMP, ADD_MONTHS, MONTHS_BETWEEN.

(v) Agg fns → Operate on multiple rows.
→ SUM, AVG, MIN, MAX, COUNT
Only numeric
Don't ignore NULL, others ignore it.

(vi) NVL & USER are Misc.

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Section 7 → Sorting Data.

① CASE

→ Case statement has 2 diff syntax styles:
Simple CASE & Searched CASE.

→ CASE Department
WHEN 'CSE' THEN Salary * 1.2
WHEN 'Mech' THEN Salary * 1.1
ELSE Salary * 1
END.

(If else is not there null is returned)

CASE
WHEN Marks >= 85 THEN 'Excellent'
WHEN Marks >= 65 THEN 'Good'
ELSE 'Poor'
END.

② ORDER BY

→ It is possible that same query gives diff order of rows in by bcz query just retrieves the info with it should, order not imp.

That why ORDER BY is used:

Ascending, Descending, By value etc.
Also first sorting is done in primary column, then in other secondary columns.

selected here

Eg:- Select ID, ENAME, salary, DEPT FROM Emp ORDER BY DEPT ASC

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Section 8 → Group by Having..

① Group by → groups the data from table into diff groups based on criteria provided & calculates the aggregate func for each group. (min, max, avg)

↳ More can be added.

⇒ SELECT Dept, SUM(Salary)
FROM Employee
GROUP BY Dept;
↳ more can be added.

② Having → Allows aggregate functions to be used as filter criteria which cannot be done using WHERE.
∴ Only HAVING with aggregate func.

③ Overall Order (★★).

f J W G H S D O
(Distinct)
(From) (Join) (Where) (Group by) (Having) (Select) (Order by).

Start → End