

7. SQL Functions

Function Type	Examples	Explanation	Example Usage
String Functions	CONCAT(), SUBSTRING(), UPPER(), LOWER()	Manipulate string data	SELECT CONCAT(FirstName, '', LastName) AS FullName FROM Employees;
Numeric Functions	ROUND(), ABS(), CEIL(), FLOOR()	Perform operations on numeric data	SELECT ROUND(Price, 2) AS RoundedPrice FROM Products;
Date Functions	NOW(), CURDATE(), DATEDIFF(), DATE_FORMAT()	Manipulate date and time data	SELECT OrderID, DATEDIFF(CURDATE(), OrderDate) AS DaysSinceOrder FROM Orders;
Aggregate Functions	COUNT(), SUM(), AVG(), MAX(), MIN()	Perform calculations on a set of values	SELECT AVG(Salary) AS AverageSalary FROM Employees;

8. SQL CLAUSES

Clause	Explanation	Syntax	Example
WHERE	Filters records based on a condition	SELECT column1, column2 FROM table_name WHERE condition;	SELECT * FROM Employees WHERE Department = 'Sales';
GROUP BY	Groups rows that have the same values	SELECT column1, aggregate_function(column2) FROM table_name GROUP BY column1;	SELECT Department, COUNT(*) FROM Employees GROUP BY Department;
HAVING	Specifies a search condition for a group	SELECT column1, aggregate_function(column2) FROM table_name GROUP BY column1 HAVING condition;	SELECT Department, AVG(Salary) FROM Employees GROUP BY Department HAVING AVG(Salary) > 50000;
ORDER BY	Sorts the result set	SELECT column1, column2 FROM table_name ORDER BY column1 [ASC/DESC];	SELECT * FROM Employees ORDER BY LastName ASC;
LIMIT	Specifies the maximum number of records to return	SELECT column1, column2 FROM table_name LIMIT number;	SELECT * FROM Products ORDER BY Price DESC LIMIT 10;
DISTINCT	Returns only distinct (different) values	SELECT DISTINCT column1, column2 FROM table_name;	SELECT DISTINCT Department FROM Employees;