Kids IT Courses

KIDS & TEENS FREELANCING TRAINING INSTITUTE

SQL Course Outline

Module 1: Introduction to SQL

- What is SQL and why it's important for databases
- Real-life example: Organizing a library with a digital catalog
- Understanding databases, tables, and records
- Introduction to SQL syntax
- Activity: Explore a sample database and identify its tables

---

Module 2: Retrieving Data with SELECT

- How to read data from a database
- Real-life example: Getting a list of all students in a school
- Using SELECT statements with WHERE, ORDER BY, and LIMIT
- Activity: Write basic queries to fetch data

Module 3: Filtering and Sorting Data

- Using conditions to filter rows (AND, OR, NOT)
- Sorting results in ascending and descending order
- Real-life example: Find students older than 10 and sort by grade
- Activity: Create queries using filtering and sorting

Module 4: Inserting and Updating Records

- Adding new data using INSERT
- Updating existing records using UPDATE
- Real-life example: Adding a new product or updating its price
- Activity: Insert and update records in a sample table

Module 5: Deleting Data

- Removing unwanted or old data using DELETE
- Real-life example: Removing a student who left the school
- Using WHERE clause safely in delete statements
- Activity: Write DELETE queries and test their effect

Module 6: Working with Multiple Tables

- Understanding relationships between tables (JOINs)
- Real-life example: Connecting orders with customer data
- Introduction to INNER JOIN, LEFT JOIN, and RIGHT JOIN
- Activity: Create a JOIN query to combine data from two tables

---

Module 7: Functions and Grouping

- Using SQL functions: COUNT, SUM, AVG, MAX, MIN
- Grouping data with GROUP BY and filtering with HAVING
- Real-life example: Calculate average test scores per class
- Activity: Write queries with aggregate functions

Module 8: Database Design & Best Practices

- Basics of designing a well-structured database
- Introduction to primary keys, foreign keys, normalization
- Real-life example: Designing a mini school management system
- Activity: Plan and create your own database structure

Bonus Materials

- SQL cheat sheet and query examples
- Interactive SQL playground tools
- Sample projects: Library, Store Inventory, School Records
- Certificate of Completion for SQL Essentials