Microsoft Access Database

Course Overview

This comprehensive Microsoft Access database course outline progresses logically from foundational database design concepts to advanced automation. It is structured to transform beginners into proficient database administrators

Course Description

This course provides a comprehensive, hands-on introduction to relational database management using Microsoft Access. Participants will learn how to design tables, build relationships, extract data using queries, create user-friendly forms, and generate professional reports. By the end of the course, students will be able to transform raw business data into a secure, organized, and scalable database application.Key Learning Objectives is Design relational databases from scratch using proper normalization.Construct advanced queries to filter, calculate, and analyze complex datasets.Build custom user interfaces with forms for seamless data entry.Generate structured reports with automated totals, groups, and conditional formatting.Automate routine business tasks using macros and data import/export tools

Learning Curriculum

Module 1

Database Fundamentals & Architecture

Spreadsheet vs. Database: Understanding relational database management systems (RDBMS) over flat files.Access Interface: Navigating the Ribbon, Quick Access Toolbar, Backstage view, and Navigation Pane.The Six Main Core Objects: Introduction to tables, queries, forms, reports, macros, and modules.Database Design: Planning a schema, understanding entities, fields, and records

Module 2

Designing Relational Tables

Table Creation: Building tables using Datasheet View and Design View.Data Types: Configuring Short Text, Numbers, Currency, and Date/Time fields.Data Integrity: Enforcing primary keys, validation rules, input masks, and lookups.Table Relationships: Establishing One-to-Many and Many-to-Many relationships while enforcing Referential Integrity

Module 3

Extracting Information via Queries

Select Queries: Extracting specific dataset rows and columns using criteria expressions.Sorting and Filtering: Applying logic with AND, OR, and wildcards.Calculated Fields: Building formulas and expressions using the Expression Builder.Advanced Queries: Utilizing Parameter, Crosstab, and Action Queries (Append, Update, Delete).SQL View: Introduction to the fundamental structured query language (SELECT, WHERE, JOIN)

Module 4

Designing User Interfaces with Forms

Form Layouts: Generating Forms using the Form Wizard, Layout View, and Design View.Form Controls: Adding text boxes, combo boxes, list boxes, and command buttons.User Data Entry: Formatting user interfaces for safe data entry and modification.Subforms: Displaying related data from secondary tables on a main form

Module 5

Generating Professional Reports

Report Layouts: Designing summaries using the Report Wizard and Print Layout.Grouping & Sorting: Organizing inventory, sales, or customer data into structured sections.Calculated Controls: Summarizing data using totals, averages, and group counts.Conditional Formatting: Highlighting critical data anomalies visually

Module 6

Data Integration & Automation

Importing & Exporting: Exchanging data seamlessly with Microsoft Excel, text files, and PDFs.Linking Tables: Connecting external databases or network tables safely.Macros: Automating repetitive data tasks and building database switchboards/navigation.VBA Introduction: Writing simple Visual Basic for Applications modules to handle complex event operations

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