Creating and Managing Database Tables with SQL Commands

Introduction to Database Tables

Welcome to the world of database management! In this welcome pack, we will introduce you to the basics of creating and managing database tables using SQL commands. A database table is a collection of related data stored in a structured format, consisting of rows and columns. Each row represents a single record, and each column represents a field or attribute of the record.

Activity 1: Matching Game

Match the following terms with their definitions:

- Database table
- Row
- Column
- Record
- Field

Definitions:

- A collection of related data stored in a structured format
- A single entry in a database table
- A vertical list of cells in a database table
- A single piece of information in a database table
- A horizontal list of cells in a database table

SQL Commands for Table Creation and Management

SQL (Structured Query Language) is a programming language used to manage and manipulate data in a database. To create a database table, you can use the `CREATE TABLE` command. For example:

```
CREATE TABLE customers (customer_id INT, name VARCHAR(255), email VARCHAR(255));
```

This command creates a table named "customers" with three columns: customer_id, name, and email.

Activity 2: Fill in the Blanks

Complete the following SQL command to create a table named "orders" with four columns: order_id, customer_id, order_date, and total_cost.

```
CREATE TABLE orders (_____ INT, _____ INT, _____ DATE, _____ DECIMAL(10, 2));
```

Real-World Applications of Database Management

Database management is essential in various fields, including business, healthcare, and social media. For example, a company like Amazon uses databases to manage customer information, orders, and inventory.

Case Study:

Read the following scenario and answer the questions:

A small business wants to create a database to manage customer information. The database should include columns for customer name, email, phone number, and address.

1. What type of data would you store in each column?
2. What SQL command would you use to create the database table?

Practice Exercises and Activities

Practice makes perfect! Complete the following exercises to reinforce your understanding of database tables and SQL commands.

1. Create a database table named "products" with columns for product_id, name, description, price, and quantity.
2. Insert data into the "products" table using the `INSERT INTO` command.
3. Retrieve data from the "products" table using the `SELECT` command.

Quiz Time!

Test your knowledge with the following quiz questions:

1. What is the purpose of a primary key in a database table?
2. What SQL command is used to create a new database table?
3. What is the difference between a row and a column in a database table?

Case Study: Designing a Database for a Small Business

Read the following scenario and design a database to meet the requirements:

A small business wants to create a database to manage customer information, orders, and products. The database should include tables for customers, orders, and products.

1. Design the database tables and relationships between them.
2. Write the SQL commands to create the database tables.

Glossary of Key Terms

Here are some key terms to remember:

- Database table: A collection of related data stored in a structured format.
- Row: A single entry in a database table.
- Column: A vertical list of cells in a database table.
- Record: A single piece of information in a database table.
- Field: A horizontal list of cells in a database table.
- SQL: Structured Query Language, a programming language used to manage and manipulate data in a database.

Additional Resources

For further learning and practice, visit the following websites:

- W3Schools: SQL Tutorial
- Tutorials Point: SQL Tutorial
- SQL Fiddle: Online SQL Editor

Conclusion

Congratulations on completing this welcome pack! You now have a basic understanding of creating and managing database tables using SQL commands. Remember to practice and apply your knowledge to real-world scenarios.

Assessment and Evaluation

Assess your understanding by completing the following evaluation questions:

1. What is the purpose of a database table?
2. What SQL command is used to create a new database table?
3. What is the difference between a row and a column in a database table?