

• Chapter 06 : Tables and Queries

6.1 Overview

Q : 06-01-01 : Describe MS Access ? Describe Benefits of MS Access ?

Answer :

Microsoft Access

In a relational database the data is stored in tables. The TABLE or RELATION is a fundamental concept of relational databases. It is foundation of every Relational Database Management System.

Tables are grids that store information in a database similar to the way an Excel worksheet stores information in a workbook. Access provides three ways to create a table for which there are icons in the Database Window. Double-click on any of the icons to create a table. Every database consists of one or more tables which store data. Each table has its own unique name and consists of columns and rows. It is a very convenient way to store information. The columns in a table (also called table fields) have their own unique names and have a pre-defined data type. The field can be a primary key, an index defined on it and it can have certain default value. The table columns describe the data types, whereas the table rows contain the actual data.

Q : 06-01-02 : Describe Characteristics of Database Tables ?

Answer :

Characteristics of Tables

The tables of a relational database have following characteristics:

1. Each cell of the table contains only one value.
2. Each column has a distinct name, which is the name of the attribute (field) it represents.
3. The order of the columns is immaterial.
4. Each row represents a record.
5. Each row is distinct; there are no duplicate rows.
6. The order of rows is immaterial.
7. Using a separate table for each entity means that you store that data only once, which makes your database more efficient, and reduces data entry errors. Tables form the foundation of an Access database structure.

Q : 06-01-03 : Describe Degree and Cardinality of Relation or Table ?

Answer :

Degree of a Relation or Table

The number of fields in a relation is called the degree of a table. Once the table has been created, its degree usually dose not changes, e.g. a table with five fields has a degree of 5.

Cardinality of a Relation or Table

The number of record in a relation is called the cardinality of the relation. The cardinality of a relation changes as new records are added or existing records are deleted, e.g. a table with 50 records has a cardinality of 50.

Q : 06-01-04 : Define Basic Term used in Database ?

Answer :

A Basic Terminology

A **database** is a collection of related data (or record).

An **object** is a component in the database such as a table, macro.

A **table** is a group of related data organized in fields (columns) and records (rows). By using a common field in two tables, the data can be linked. Many tables can be stored in a single database.

A **field** is a column in a table and defines a data type for a set of values in the table.

For example a mailing list table might include fields for first name, last name, address, city, state, zip code, and telephone number.

A **record** is a row in a table and is a set of values defined by fields. In a mailing list table, each record would contain the data for one person as specified by the intersecting fields.

Design View provides the tools for creating field in a table.

Datasheet View allows you to update, edit, and delete information from a Table.

Q : 06-01-05 : Describe MS Access IDE ?

Answer :

Access IDE

IDE stand for Integrated Development Environment. It is an interface that is used to create a database. An IDE makes the using of database simple, manageable for end users who may not have a complicate programming knowledge of the database system.

Microsoft Access is an example of a database management system. The access IDE simplifies the task of creating, designing good-looking screens with features (i.e. text boxes, list boxes, button, dialog boxes etc.). It provides the facilities for searching, sorting, and retrieving the data.

Q : 06-01-06 : Describe Data Types in MS Access ?



Answer :

Data Types in MS Access

Before you start creating a new table in Access, you first consider how you want to break down the information you are organizing into smaller units of data in the table.

Dividing the data into units of information is the process of determining the fields.

Each field will be assigned a unique field name. Each field is also assigned a data type. Following are the data types available in MS Access :

Text - The default type, text type allows any combination of letters and numbers up to a maximum of 255 characters per field record.

Memo - A text type that can store more than 64,000 characters and is used for detailed descriptive fields.

Number — This data type is used to store numbers that are used in mathematical calculations. Several number field sizes are available.

Date / Time - A Date, Time, or combination of both can be specified in this field.

Currency - Monetary values that can be set up to automatically include a dollar sign (\$) and correct decimal and comma positions.

Auto Number - When a new record is created, Access will automatically assign a unique integer to the record in this field.

Yes / No - Use this option for True / False, Yes / No, On / Off, or other values that must be only one of two choices.

OLE Object - An OLE (Object Linking and Embedding) object is a sound, picture, or other object such as a Word document or Excel spreadsheet that is created in another program. Use this data type to embed an OLE object or link to the object in the database.

Hyper link - A hyperlink will link to a website, or another location in the database. A hyperlink address have up to four parts: the text that is displayed in the field; the path to a file or URL; a sub-address which is a location in the file or page in the web site; and the text that is displayed as the tool-tip.

Q : 06-01-07 : Describe Query in MS Access ?

Answer :

Query in MS Access

Query mean question or inquiry. The questions like statements that are to retrieve data form one or more database tables are called queries. It is a powerful and flexible way of selecting, filtering and sorting records.

Queries select records from one or more tables in a database; these selected records can be viewed, analyzed, and sorted on a common datasheet. The resulting collection of records, called a dynaset (short for dynamic subset), is saved as a database object and can therefore be easily used in future.

The query will be updated whenever the original tables are updated. Types of queries are select queries that extract data from tables based on specified values, find d queries that display records with duplicate values for one or more of the specified fields, and find unmatched queries display records from one table that do not have corresponding values in a second table.

Q : 06-01-08 : Explain Types of Query in MS Access ?

Answer :

Types of Queries

There are five types of query : Select queries, Action queries, Crosstab queries, Parameter queries and SQL queries.

Select Queries

A select query gathers, collates and presents information in usable forms. It retrieves data from one or more tables and displays the results in a datasheet where you can update the records. You can also use a select query to group records and calculate sums, counts, averages, and other types of totals.

Action Queries

An action query makes changes in specified records of an existing table, or creates a new table. There are four types of action queries:

Delete Queries : A delete query deletes a group of records from one or more tables.

Update Queries : An update query makes changes to a group of records in one or more tables.

Append Queries : An append query adds a group of records from one or more tables to the end of one or more tables.

Crosstab Queries : There are crosstab queries to calculate and restructure data for easier analysis of your data. Crosstab queries calculate a sum, average, count, or other type computation for data. These queries are grouped by two types of information, one down the left side of the datasheet and another across the top.

Parameter Query

A parameter query is a query that when run displays its own dialog and prompts you for information. Parameter queries are also used as the basis for forms and reports.

