

The courseware Shop

Introduction to Access 2007

One Day Course

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INTRODUCTION TO ACCESS 2007

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MODULE 1; INTRODUCTION TO DATABASES

DATABASE CONCEPTS

The term database is computer jargon for a familiar and essential item in our day to day lives. A database is a collection of information organised and presented in a structured way. In simple terms:

Data = Pieces of information.

Database = Information Source.

The reasons for using a database are:

- **Storing Data** Computerised data takes up less space than its paper equivalent.
- **Finding Data** Locating data by computer is very fast.
- **Sorting Data** Sorting and resorting data in different ways is achieved quickly and with little fuss.
- **Updating Data** As it is stored centrally, data need only be dealt with once.

Your Data will be organised, easy to maintain, easy to store and easy to retrieve

Types of Database Structures:

A Flat File Database - A simple table, consisting of categories (or fields) in columnar format and records entered in rows. Databases created in spreadsheet applications (e.g. Lotus 123, Microsoft Excel) are flat file databases. An everyday example of a flat file or two-dimensional database is a telephone directory.

Relational - A relational database involves several tables. Data records can be extracted from several tables at the same time. Because these more advanced databases can involve multiple data tables they are sometimes referred to as three-dimensional databases.

FLAT FILE DATABASE VS RELATIONAL DATABASE

Where a Flat File system deals with all the information on a single table a Relational Database System splits a broad range of information into several tables. This means that data entry is quicker with less wasted effort. Also 'queries' or methods of searching for specific data are much faster. The power of the relational database system lies in its ability to relate two or more tables together to retrieve and collate information.

Other differences are:

- Because of data duplication for each record entered in a Flat File System.

There is much more wasted space.

There is more time spent on data entry.

- Queries will run slightly quicker in a Flat File Database System.

Access is a RDBMS, i.e. a Relational Database Management System.

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DATABASE LAYOUT

In an Access database, data is stored in the form of a table. These consist of fields and records:

	Field	Field	Field
	First Name	Last Name	Date of Birth
Record	John	Doe	03 Nov 58
Record	Patrick	Deer	12 Jan 66
Record	Anthony	Elk	31 Jul 55

A **Field** is a piece of data of a specific type: e.g. First name or last name.

A **Record** is a collection of fields: e.g. information about a person.

A **Database** is a collection of records: e.g. your business card file.

The power of the relational database lies in its ability to relate two or more tables together to retrieve and collate information.

NOTE: AN ACCESS DATABASE IS A CONTAINER FOR LOTS OF DIFFERENT ITEMS. TABLES ARE SUCH ITEMS. YOU CAN HAVE MANY TABLES IN ONE ACCESS DATABASE (I.E. ONE ACCESS DATABASE FILE). THESE TABLES MAY HAVE DIFFERENT NAMES IN OTHER APPLICATIONS. IN LOTUS APPROACH FOR EXAMPLE THEY ARE CALLED WORKSHEETS.

ACCESS OBJECTS

An **Access** Database uses the following objects which knit together to form the database:

Tables Hold the information.

Queries Manipulate the information and are used to extract data (find records)

Forms For user input. These are easier on the eye than table grids.

Reports To display the information in a presentable way and with totals etc.

Macros To automate tasks.

Modules For the programming of processes.

All of these can be designed by the user either from scratch or with the help of Wizards.

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