Diploma in Hotel Management

Business Computing

Chapter 5

Microsoft Access

Topic

- Introduction to DBMS
- Microsoft Access
- Getting Started
- Creating Database File
- Database Window
- Table
- Queries
- Form
- Report

Introduction

- A set of programs designed to organize, store, and retrieve machine-readable information from a computer-maintained database or data bank.
- The information from a database can be presented in a variety of formats.
- Most DBMSs include a report writer program that enables you to output data in the form of a report.

Introduction

- Databases are intended for storing and maintaining large amounts of information.
- The following are examples of the sort of information that can be kept in a database:
  - Inventory control
  - Payroll systems
  - Personal records
  - Music collection catalogue
  - Phone and address lists

Introduction

- Traditional databases are organized by **fields**, **records**, and **files**.
  - A **field** is a single piece of information.
  - A **record** is one complete set of fields.
  - A **file** is a collection of records.

Introduction

- **Microsoft Access** is a computer application used to create and work with databases.
- In computer jargon that means it’s a **Database Management System** or **DBMS**.
- A database is basically a **collection of data** or **pieces of information**.

Using Microsoft Access

- You need to understand how Microsoft Access breaks down a database.
- Some keywords involved in this process are:
  - Database File
  - Table
  - Record
  - Field
  - Data type

Using Microsoft Access

Database File

- This is your main file that encompasses the entire database and that is saved to your hard-drive or floppy disk.
  - Example: StudentDatabase.accdb

Using Microsoft Access

Table

- A table is a collection of data about a specific topic.
- There can be multiple tables in a database.
  - Example #1: Students
  - Example #2: Teachers

Using Microsoft Access

Field

- Fields are the different categories within a Table.
- Tables usually contain multiple fields.
  - Example #1: Student LastName
  - Example #2: Student FirstName

Using Microsoft Access

Data Type

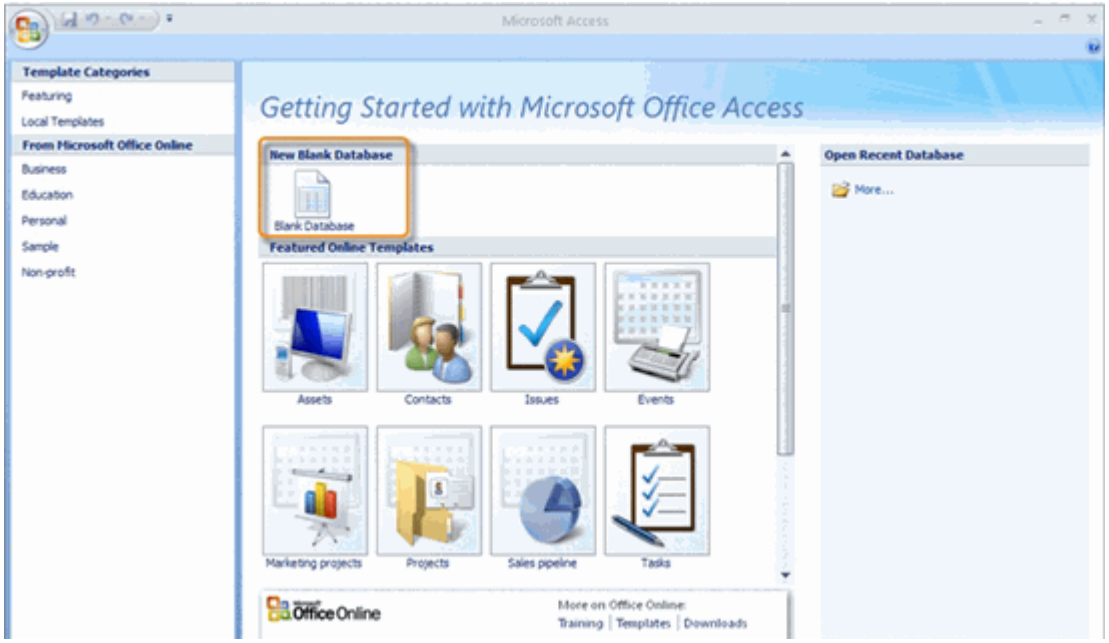
- Data types are the properties of each field.
- A field only has 1 data type.
- Examples of data type:
  - Text
  - Number
  - Date
  - Time
  - Object
  - Autonumber

Getting Started

To create a new database file:

- Click the Microsoft Office Button
- Click New
- Click the New Blank Database icon
- Type in a name for the database
- Click Create

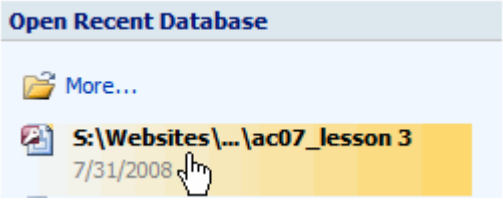
Getting Started



Getting Started

To Open an Existing Database:

- In the Open Recent Database section, double-click the file name of the database you wish to open. It will appear in the window.



Table

- A **table** is a collection of data about a specific topic.
- Tables are the most important component of an Access database because tables are where all of your information is stored.
- Each table is made up of columns referred to as Fields and rows referred to as records.

Table

Field

Record

Name	Initials	Address	Suburb	Phone
Smith	A J	12 Smith St	Kalgoorlie	90911234
Smith	A L	18 Invisible Ave	Kalgoorlie	90914321
Smith	A R	4 My Street	Boulder	90910987
Smith	B D	912 Long Rd	Kalgoorlie	90917890

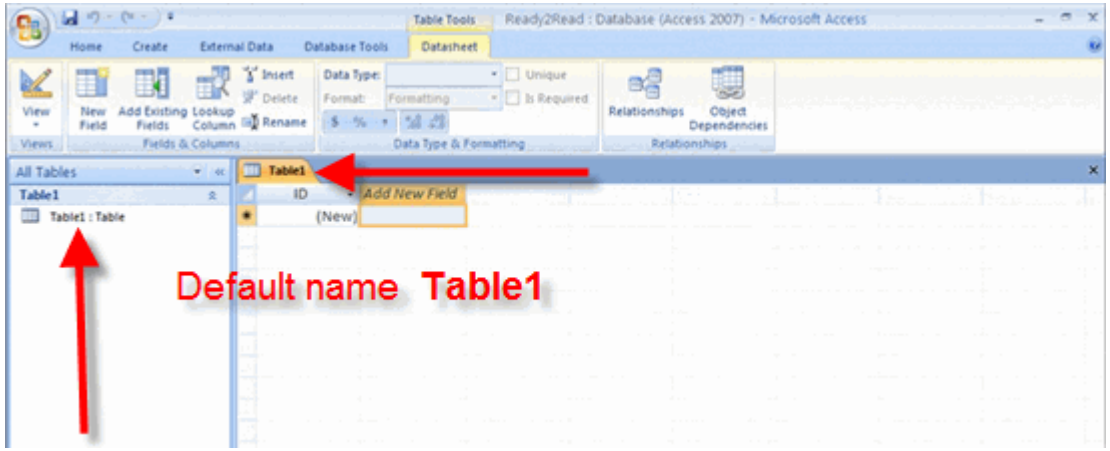
- Each category of data (Name, Initials, Address etc) is a **field**.
- Each individual item of information (such as the information for A L Smith) is a **record**.

Table

- When you create a new table, one of your first tasks is to create the fields that will make up the table.
- One of the fields should be a **primary key**.
- A **Primary key** is a field which is unique to each record.

Table

- The new database opens with one table showing as a default.
- It also defaults to naming this table **Table1** in both the **Navigation Pane**, and the **Table tab** itself.



Table

To save the table:

- Click on the **Microsoft Office Button**.
- Select **Save** from the menu. The **Save As** dialog box will appear to let you save the table as whatever name you choose.

Creating a Table

Field Data Types

Text	• Can store any kink of text/numeric characters. • Maximum 255 characters.
Memo	• Store large amount of text/number characters. • Maximum 65,535 characters.
Number	• Only can store number.

Creating a Table

Field Data Types

Date/Time	• For date and time information.
Currency	• Used for dollar amounts.
AutoNumber	• Automatically generates a unique number for each new record. • Useful for primary key fields.
Yes/No	• Fields that contain only one of two values (such as yes/no, true/false, on/off).

Creating a Table

Field Data Types

OLE Object	• Can contain any object such as picture and document.
Hyperlink	• For links such as email and web page addresses.
Lookup wizard	• Allows the user of the table to choose a value from another related table.

Creating a Table

Creating a Primary Key

- Click the first field.
- Insert new row (From Insert menu choose Row).
- Type the Field name and select the data type.
- Select the Field.
- From the Edit menu and select **Primary Key**.

Creating a Table

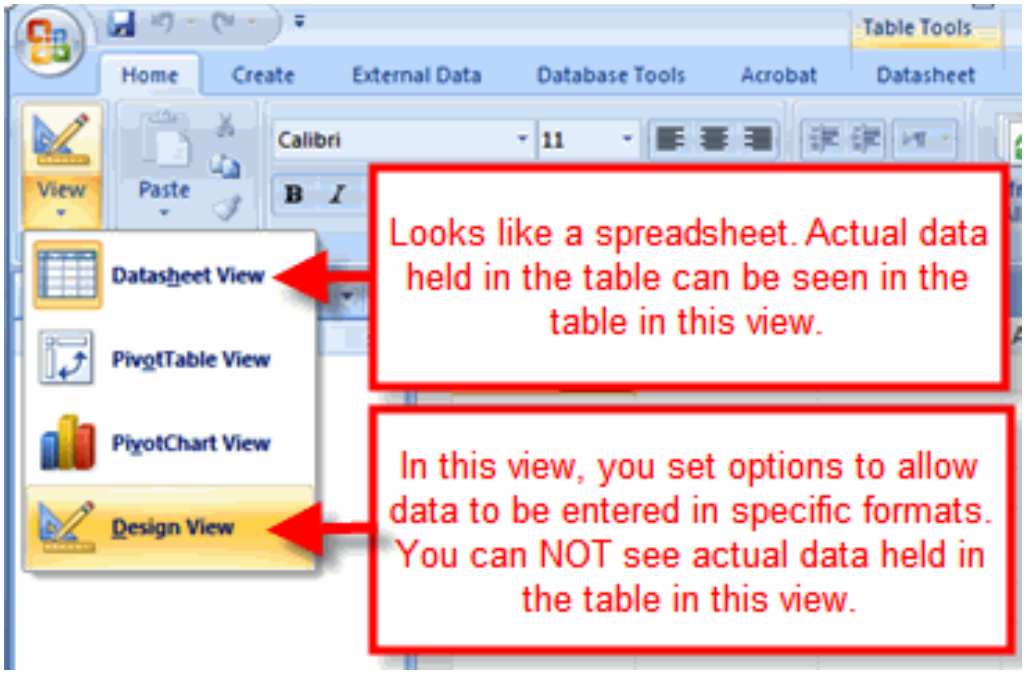
Saving a Table

- From the Menu file choose Save, or Click the Save button from the toolbar.
- Type the name for the table.
- Click OK.

Creating a Table

There are two ways to view a table:

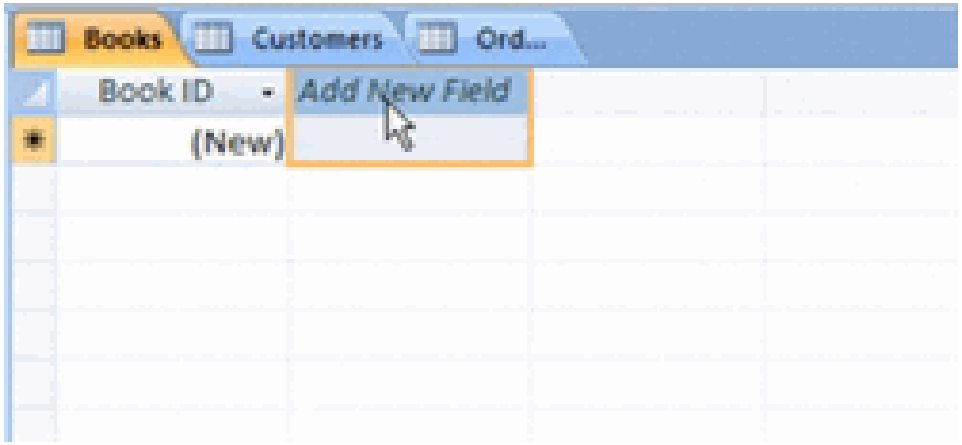
- Design View
- Datasheet View



Creating a Table

To add fields (Datasheet view):

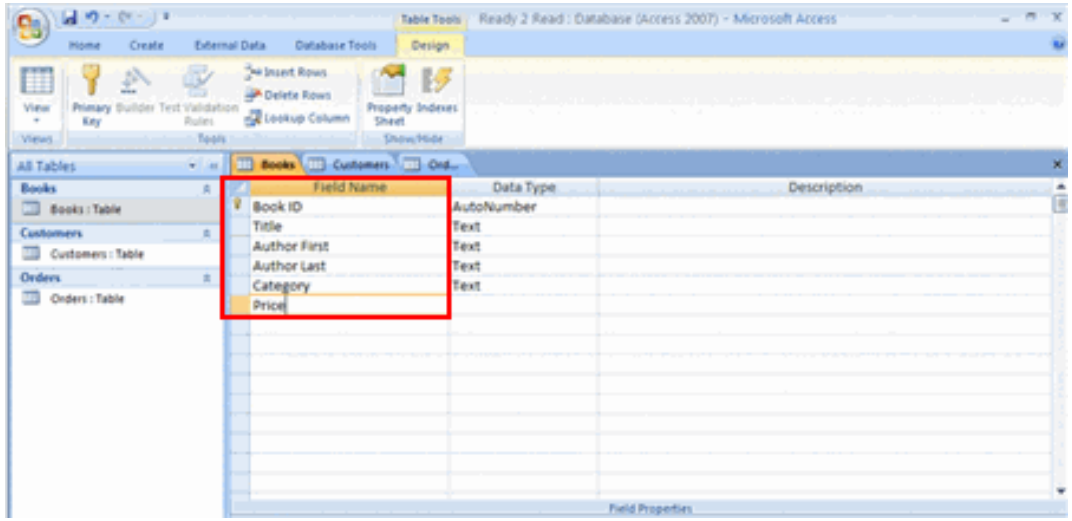
- **Double click** on the **Add New Field** header.



Creating a Table

To add fields (Design view):

- **Click** in the cell where you want the new field and **type the field name**.



Creating a Table

Data Types

Data	Description
Text	Text, number, or a combination up to 255 characters
Memo	Similar to the text field, can contain text, numbers, or a combination up to 2 GB of data.
Number	Numbers up to 16 bytes of data
Date/Time	Date and Time information
Currency	Currency up to 8 bytes and precise to 4 decimal places

Creating a Table

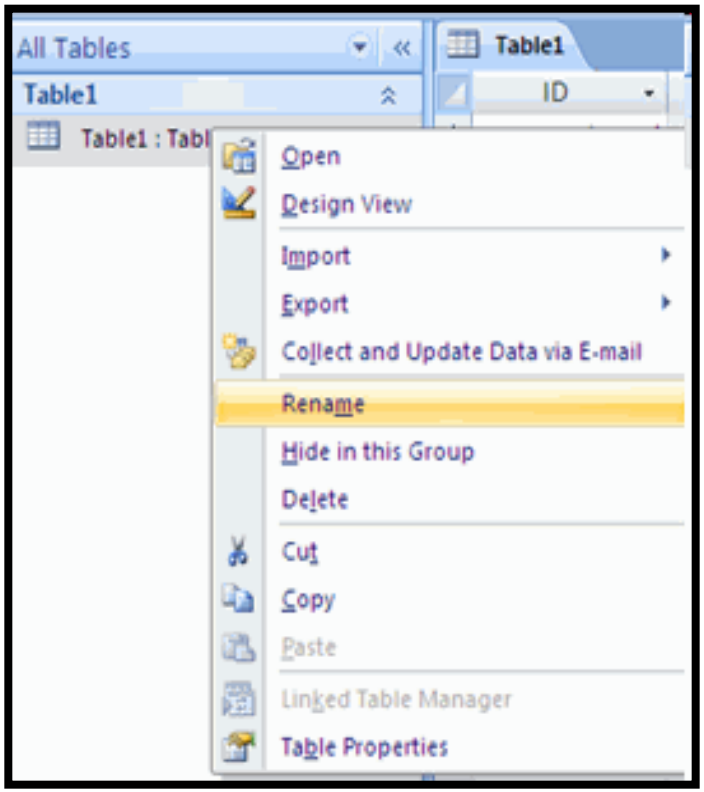
Data Types

Data	Description
AutoNumber	Access creates a unique number for each new record. This is often the primary key for the table
Yes/No	Yes and No, stored as -1 for yes and 0 for no
OLE Object	Images, documents, graphs up to 2 GB
Hyperlink	Web addresses
Attachment	Attachments such as images, spreadsheets, documents, and charts.

Creating a Table

To rename a table:

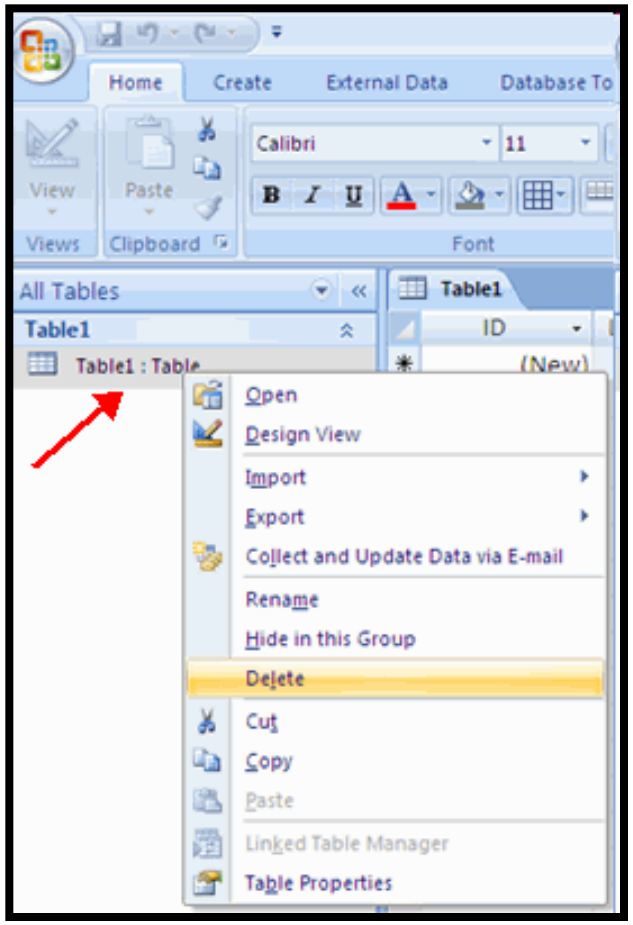
- Open the desired database by clicking the Microsoft Office Button and clicking Open
- Right click on a table and choose Rename
- Type in the new name



Creating a Table

To delete a table:

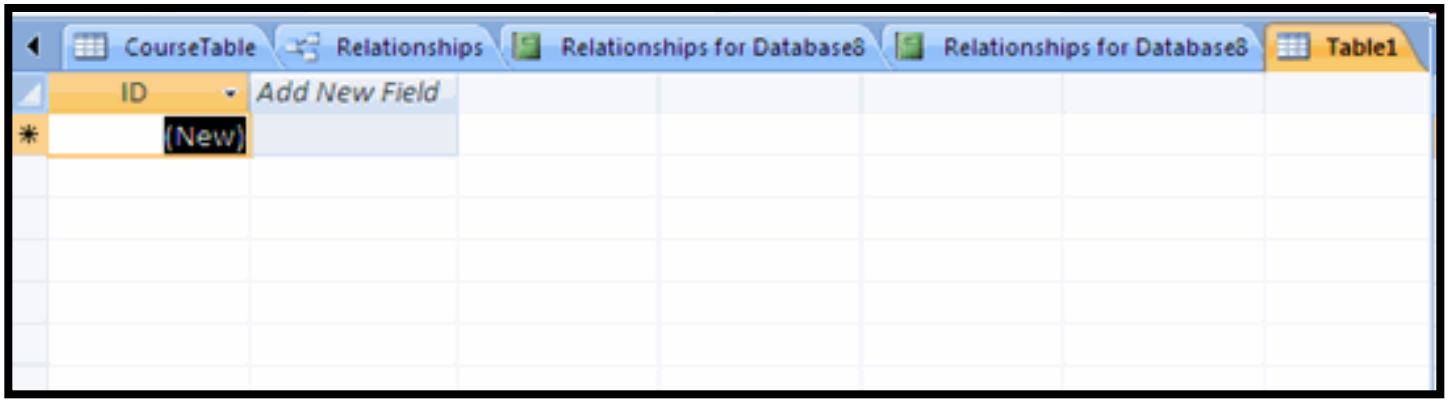
- Open the desired database by clicking the Microsoft Office Button and clicking Open
- Right click on a table and choose Delete



Creating a Table

To add records to a table:

- Open the table in Datasheet View
- Click the New Cell
- Type in your new record



Creating a Table

To edit a record:

- Scroll through the records or use the **Navigation Buttons** in the navigation bar to find the record to edit
- Click the cell that contains the information that must be edited. A pencil icon appears to indicate edit mode
- Type the new information into the field
- Click outside of the record row to apply the change

8	Cynthia	Love	7825 Venice Ct	Topeka	KS	21117	topv@email.cc
9	Jerrod	Smith	211 St. George	Austin	TX	21118	texj@email.co
10	Cody	Hayes	65 North St.	Richmond	VA	21119	richhi@email.c
11	Alleigh	Gibson	5 West St.	Smithfield	NC	21110	alg@email

Creating a Table

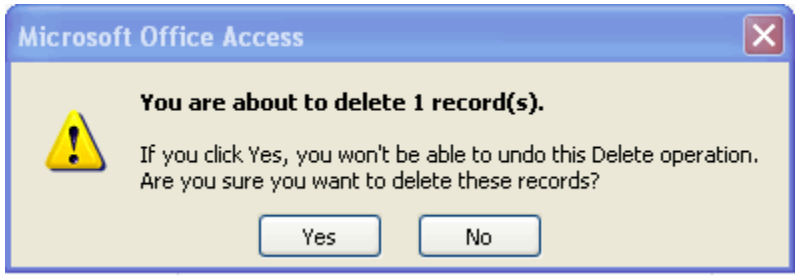
To sort records:

- Select the field you wish to sort
- Click the Sort Ascending or Sort Descending button

Creating a Table

To delete a record:

- Select the record that you want to delete. Then, right click and select **Delete Record**.
- A dialog box appears, telling you the action can not be undone and asking if you are sure you want to delete the record.



Forms

- Another way used to insert record is by using Form.
- Many people find it easier to enter data with the help of a form.

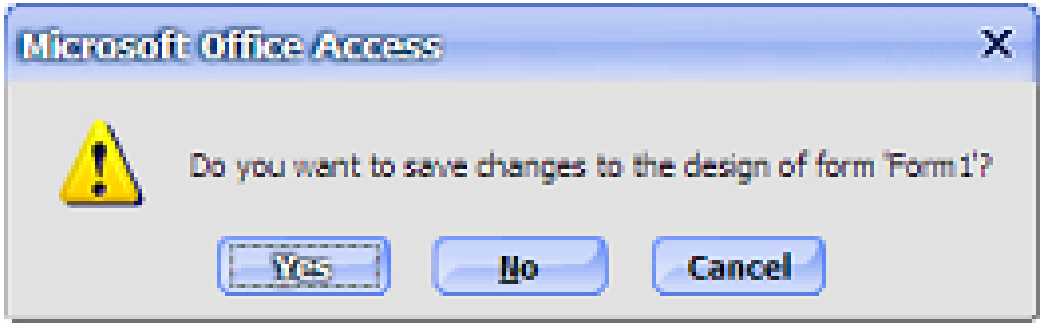
Forms

- To use your mouse, click the icons at the bottom of the form.

Form

To create a Form:

- From Database window, select a Table.
- From the Insert menu, select AutoForm.
- After you have entered the last record, close the form. You will be prompted to save.



Queries

- Queries select records from one or more tables in a database so they can be viewed, analyzed, and sorted on a common datasheet.
- The resulting collection of records, called a dynaset (short for dynamic subset).
- The query will be updated whenever the original tables are updated.

Queries

To create a Query:

- From Database window, select a Table.
- From the Insert menu, select Queries.

Queries

Criteria

- When constructing a query or a filter, you need to tell Access what to look for in each field.
- You do this by defining criteria - typing something (an "expression") into the Criteria cell of the query or filter grid.
- Query criteria are search conditions used in a query to retrieve specific data. You can set query criteria to be a specific number or data set, or you can set the criteria to be a range of data.

Queries

Criteria – Matching Text

- When you enter text into the criteria cell your text should be enclosed in quotes ("") to distinguish it from other expressions and operators that you may need to add.
- Example:
  - “Text”
  - “Text 1” **or** “Text 2”
  - **Not** “Text 1”

Queries

Criteria – Using Wildcard

- A **wildcard** is a special character that can stand for either a single character or a string of text.
- The two wildcards we commonly use are the asterisk or star (*****) and the question mark (**?**).
- The **asterisk** (*****) represents any string of text from nothing up to an entire paragraph or more.
- The **question mark** (**?**) represents a single character only (although you could use, for example, two question marks to represent two unknown characters).

Queries

Criteria – Using Wildcard

- Examples:
  - **Yor*** would find York, Yorkshire and Yorktown but not New York.
  - **Mar?** would find Mark but not Mario, Martin or Omar.
  - **F*d** would find Fred and Ferdinand but not Frederick.

Queries

Criteria – Working with Numbers

- When working with numbers we normally use the mathematical operators to define the range of numbers from which we want to select.
- For example, where X represents a number:
  - **<X** finds values less than X.
  - **>X** finds vales greater than X
  - **>=X** finds values greater than or equal to X
  - **<>X** finds vales not equal to X

Report

- **Reports** are used in a database to present information in a neat and organized format that is ready for printing.
- **Reports** will organize and group the information in a table or query and provide a way to print the data in a database.
- When a report is opened in Access, it is opened in Print preview for this reason.

Report

To create a Report:

- Make sure you are in the forms section of the Database Window.
- Click the New button.
- Select type of report you want to create and select source.
- Click OK.