



CSCA0102

IT and Business Applications

Chapter 6

Microsoft Access

Introduction to DBMS

- 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.
- Many DBMSs also include a graphics component that enables you to output information in the form of graphs and charts.

Microsoft Access

- Microsoft Access is a computer application used to create and manage computer-based databases on desktop computers and/or on connected computers (a network).
- Microsoft Access can be used for personal information management (PIM), in a small business to organize and manage data, or in an enterprise to communicate with servers.

Microsoft Access

Features

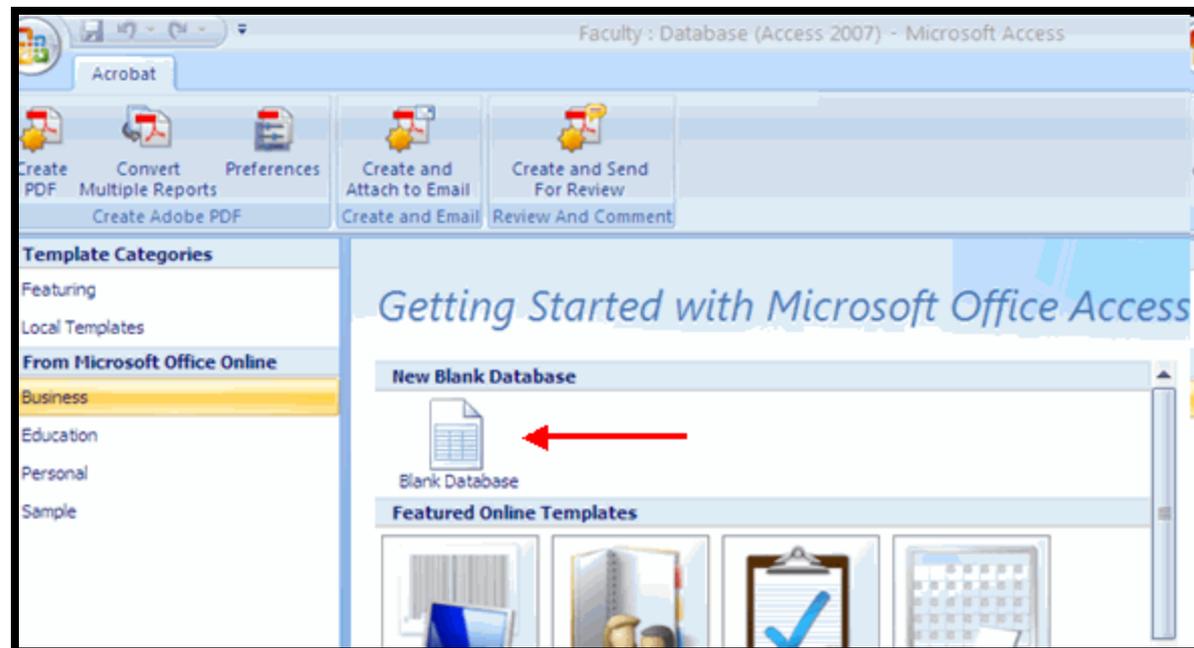
- Tables to store your data.
- Queries to find and retrieve specific data of interest.
- Forms to view, add, and update data in tables.
- Reports to analyze or print data in a specific layout.
- Data access pages to view or update, the data.

Create a New Database

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

Create a New Database



Create a Table

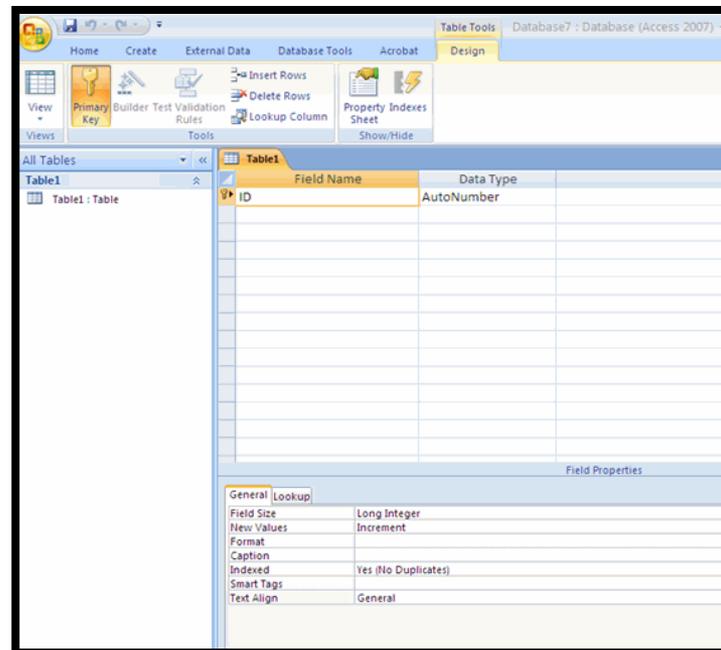
Table Views

- There are two ways to view a table in Access to add data to the table:
 - Design View
 - Datasheet View

Create a Table

Table Views

- **Design View** - you can view all the fields with the data types and descriptions.



Create a Table

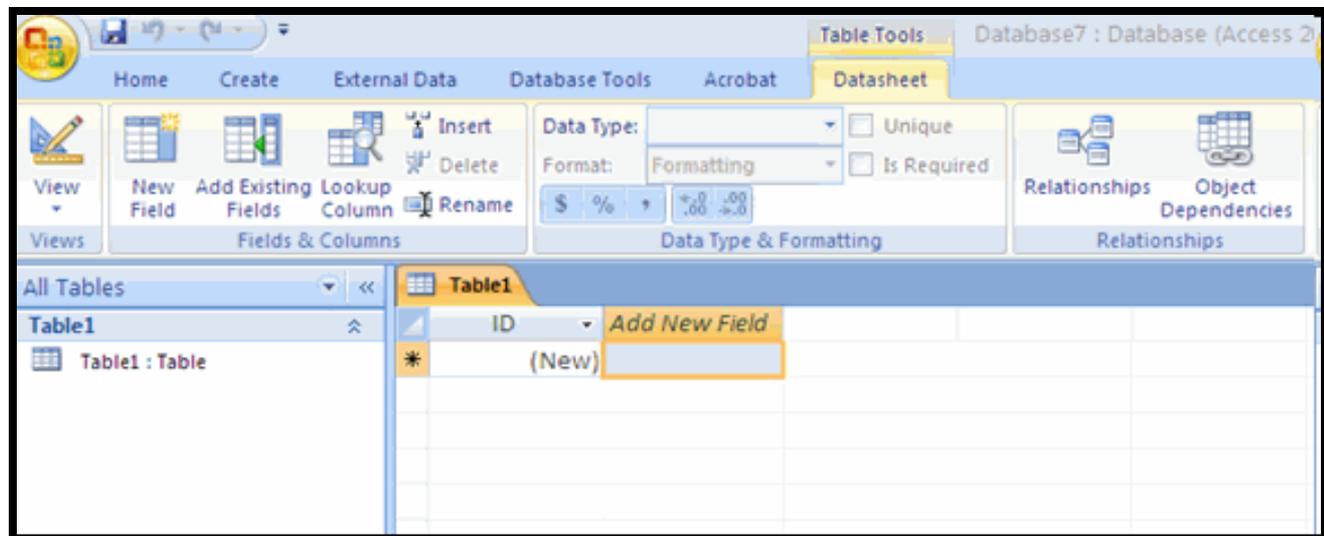
Table Views

- To go to Design View:
- Click the down arrow on the View button
- Click Design View

Create a Table

Table Views

- Datasheet View - you can display the records in a table, where one row is one record.



Create a Table

Table Views

- To go to Datasheet View:
- Click the down arrow on the View button
- Click Datasheet View

Create a Table

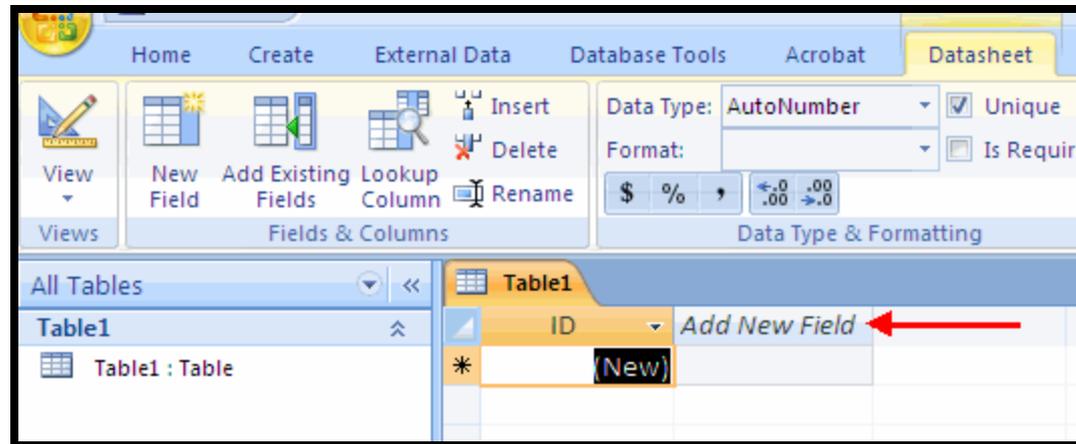
Adding New Fields

- In Design View:
- Click the Design View button
- Click on the next available field
- Type in the Name of the field

Create a Table

Adding New Fields

- In Datasheet View:
- Click the Add New Field column



Create 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

Create 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.

Create a Table

Data Types

- To edit the Data Type in Datasheet View:
- Click the field you wish to define
- Click the Datasheet tab on the Ribbon
- Click the down arrow next to Data Type
- Choose the type of data that will be entered into the field

Create a Table

Data Types

- To edit the format of the data: (Design View)
- Click the field you wish to define
- Click the Datasheet tab on the Ribbon
- Click the down arrow next to Format

Create a Table

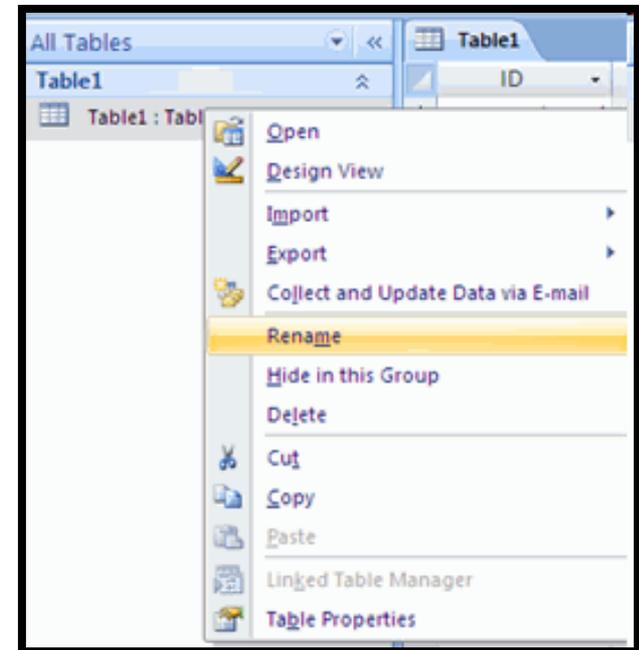
Data Types

- To edit the Data Type in the Design View:
 - Click Design View
 - Click the field name you wish to define or create a new field
 - Click the Data Type
 - Choose the appropriate Data Type
 - Format the field in the Field Properties Dialog box

Manage Tables

Rename a Table

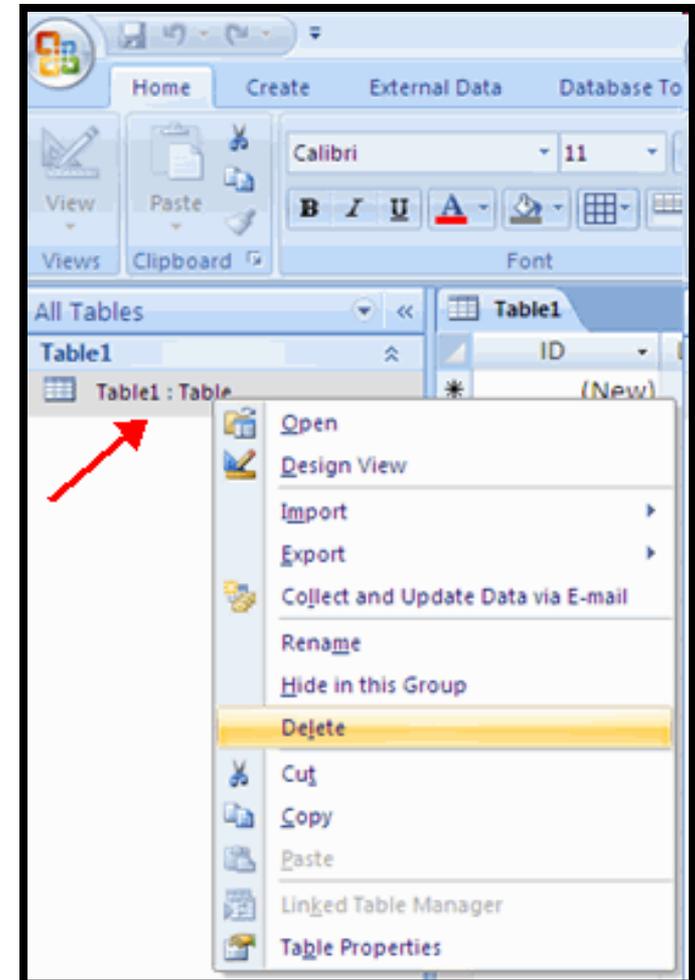
- Open the desired database by clicking the Microsoft Office Button and clicking Open
- Right click on a table and choose Rename
- Type in the new name



Manage Tables

Delete a Table

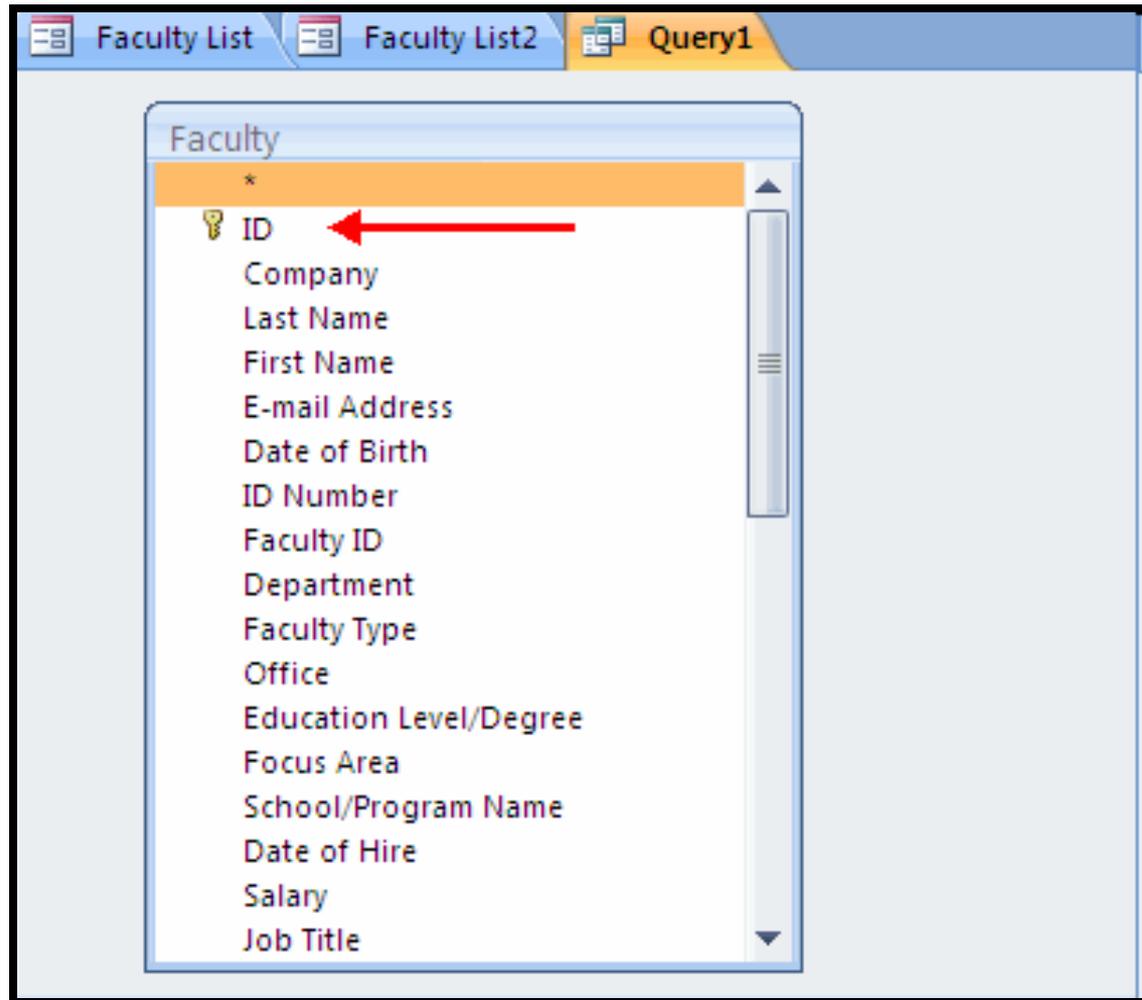
- Open the desired database by clicking the Microsoft Office Button and clicking Open
- Right click on a table and choose Delete



Primary key

- The primary key is a unique identifier for a record.
- The primary key cannot be the same for two records.
- This field can never be blank.

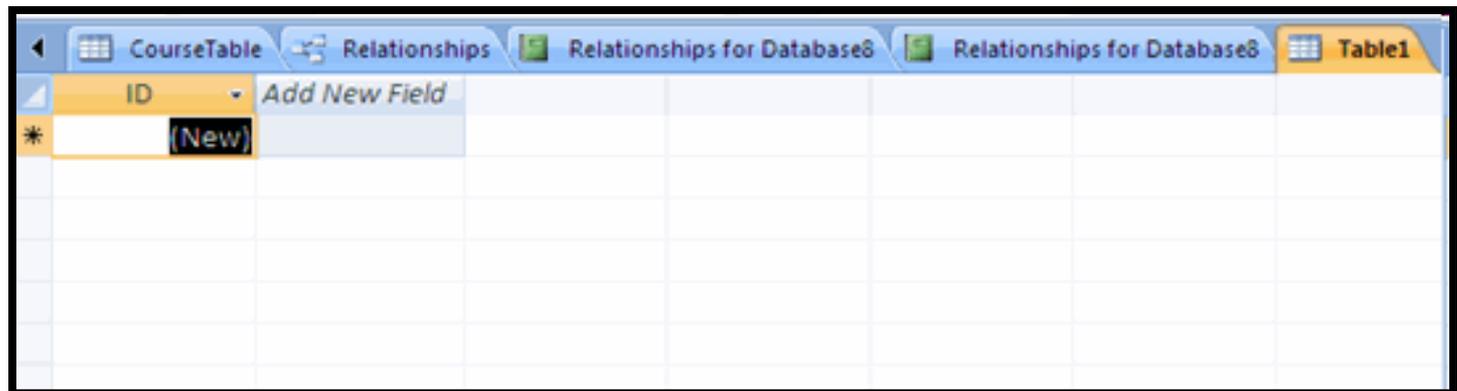
Primary key



Managing Data

Add Records to a Table

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



Managing Data

Sort Records

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

To clear the sort:

- Click the Clear Sort button

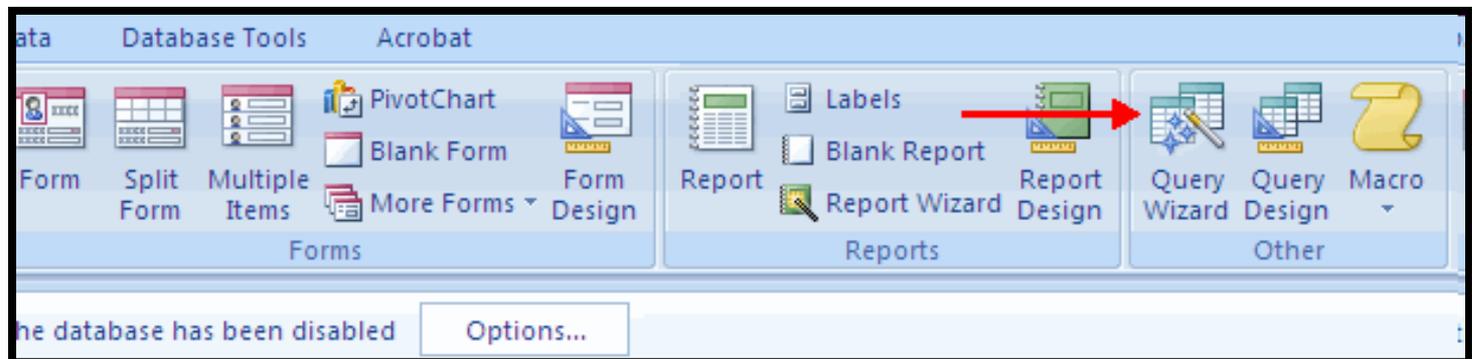
Querying a Database

- A query allows you to select and filter data from multiple tables.
- Queries can be saved and utilized as often as you need them.

Querying a Database

Query Wizard

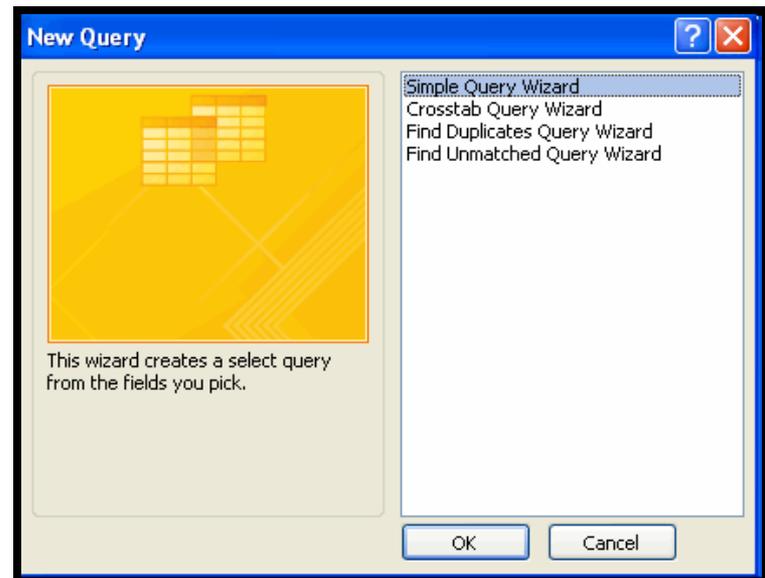
- To run a query using the query wizard:
- Click the Create tab
- Click the Query Wizard button



Querying a Database

Query Wizard

- To run a query using the query wizard:
- Choose the type of query you wish to run
- Click OK



Querying a Database

Query Wizard

To run a query using the query wizard:

- Choose the fields you wish to include from each table
- To select fields from different tables, click the Tables/Queries down arrow
- Click Next
- Type in a title for the query
- Click Finish
- The query will display

Querying a Database

Query Criteria

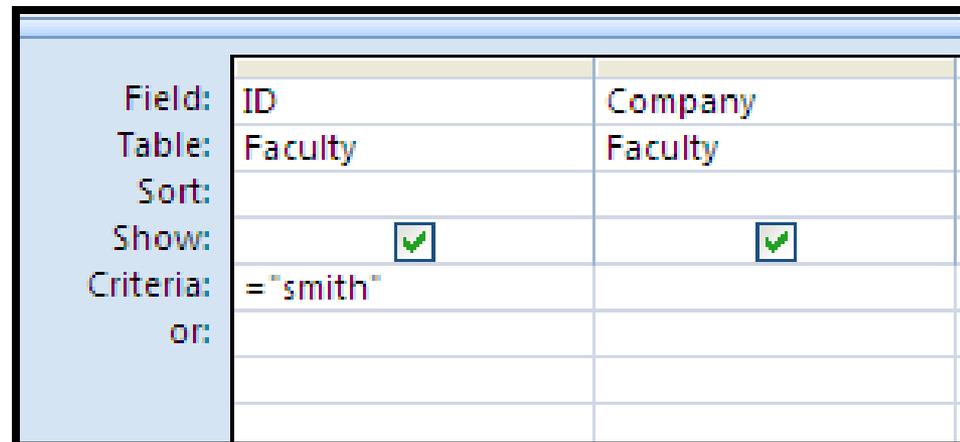
Criteria	Description
"value"	Will only display items that are that exact value (replace the word value with what you want to search by)
=	Is equal to
<	Less than
<=	Less than or equal to
>	Greater than
>=	Greater than or equal to
<>	Not equal to
Between X and Y	Within a range (replace X & Y with values)

Querying a Database

Query Criteria

To specify search criteria:

- Click the query that you wish to add conditions
- Type in the appropriate query criteria in the Criteria Box



Field:	ID	Company
Table:	Faculty	Faculty
Sort:		
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	= "smith"	
or:		

Designing Forms

- Forms allow you to control the look and feel of the screen for the input of data and the reports generated.

Designing Forms

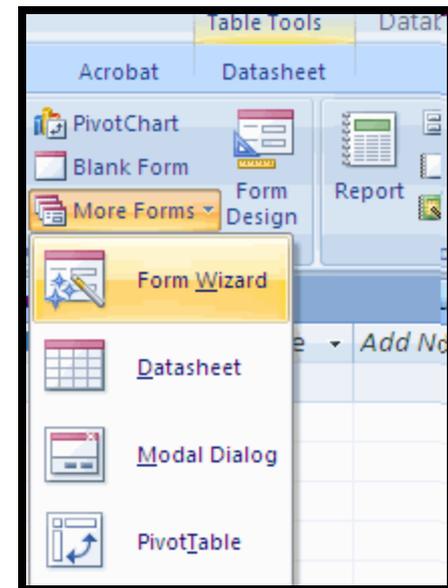
- Form Views

View	Description
Design view	Allows you to design a form that includes a header, a footer, and details in the form. You can also add images and control which fields appear on the form.
Form view	This is a dynamic page which allows the user to enter and edit data or navigate through data in a field.
Layout view	This view allows you to design the form and manipulate data.

Designing Forms

Create a Form

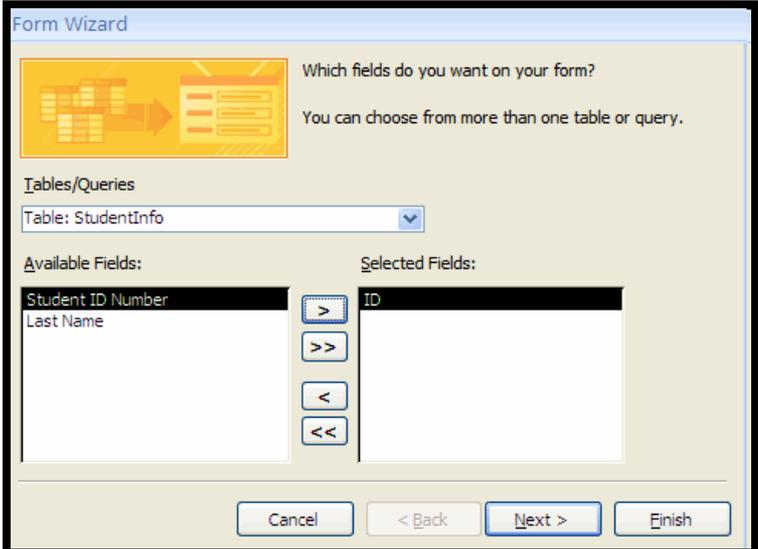
- On the create tab, click the More Forms down arrow
- Click Form Wizard



Designing Forms

Create a Form

- Choose the Tables/Queries that you wish to have on the form
- Choose the fields you wish to have on the forms
- Click Next

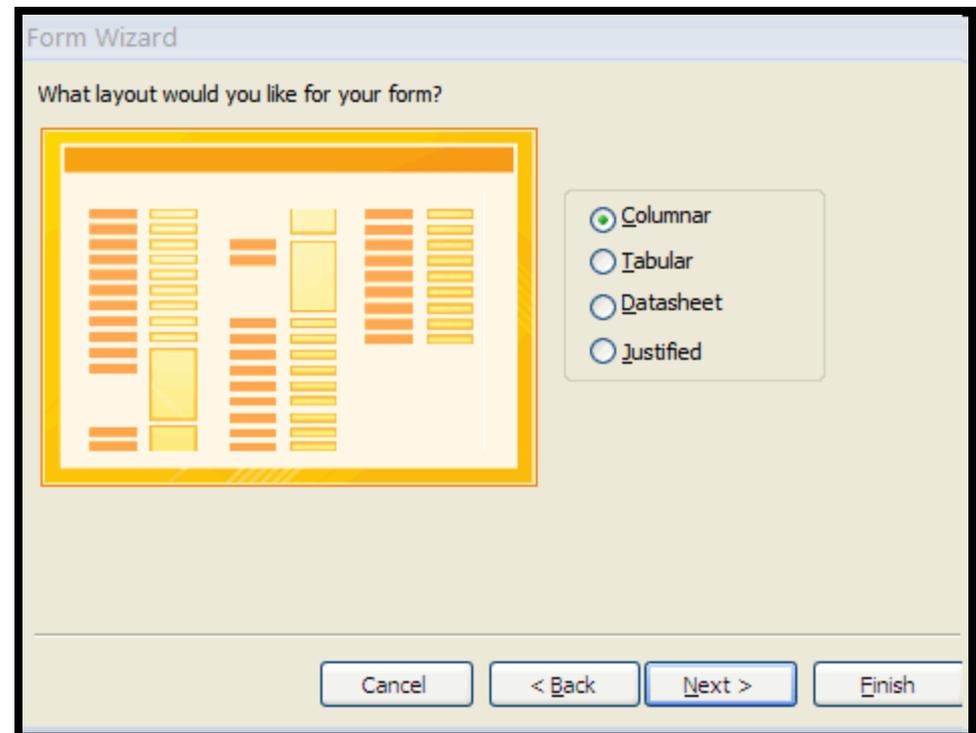


The screenshot shows the 'Form Wizard' dialog box in Microsoft Access. The title bar reads 'Form Wizard'. The main area contains the text: 'Which fields do you want on your form? You can choose from more than one table or query.' Below this, there is a 'Tables/Queries' section with a dropdown menu showing 'Table: StudentInfo'. Underneath, there are two lists: 'Available Fields' and 'Selected Fields'. The 'Available Fields' list contains 'Student ID Number' and 'Last Name'. The 'Selected Fields' list contains 'ID'. Between the two lists are four arrow buttons: a single right arrow, a double right arrow, a single left arrow, and a double left arrow. At the bottom of the dialog, there are four buttons: 'Cancel', '< Back', 'Next >', and 'Finish'.

Designing Forms

Create a Form

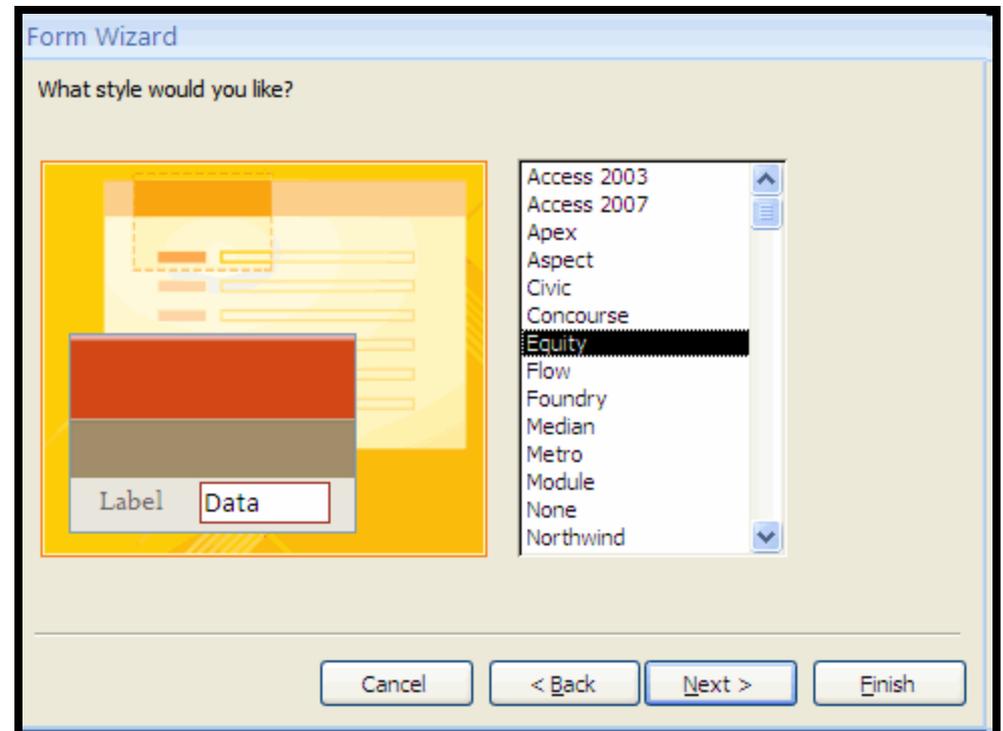
- Chose the layout for the form
- Click Next



Designing Forms

Create a Form

- Choose a style
- Click Next



Designing Forms

Create a Form

- Create a title for the form
- Choose whether you want to open the form to view it or modify the form's design
- Click Finish

Designing Forms

Create a Form

To preview the form:

- Click the Views button on the Home tab
- Click the Form View button

Generating Reports

- Reports are a means to view and analyze large amounts of data.
- You can use the Report Wizard or create a custom report that meets your specific needs.

Generating Reports

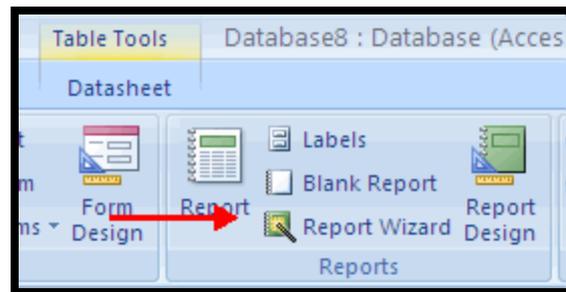
- Report Views

View	Description
Design view	This view provides you with the structure of your report. You can add, modify or delete components of the report but you cannot manipulate the data in the tables associated with the report.
Report view	This view allows you to view the data from the table but not to change any layout of the report.
Layout view	This view allows you to see data from the table and add, modify, and delete components of the report.
Print preview	This view allows you to see what your report will look like when it is printed.

Generating Reports

Create a Report

- On the Create tab, click the Report Wizard button



Generating Reports

Create a Report

- Choose the Tables/Queries that you wish to have on the form
- Choose the fields you wish to have on the forms
- Click Next

Report Wizard

Which fields do you want on your report?
You can choose from more than one table or query.

Tables/Queries
Table: StudentInfo

Available Fields: ID, Student ID Number, Last Name

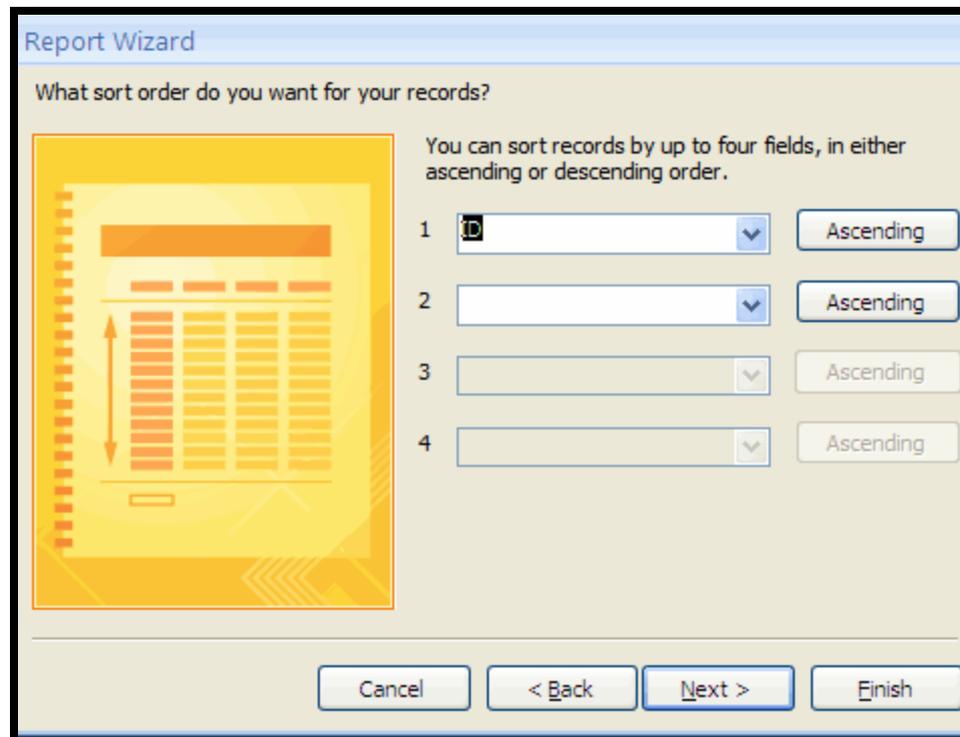
Selected Fields:

Cancel < Back Next > Finish

Generating Reports

Create a Report

- Choose the sort order for your report



The screenshot shows a 'Report Wizard' dialog box with the title 'Report Wizard'. The main question is 'What sort order do you want for your records?'. Below this, there is a yellow graphic of a report with a double-headed vertical arrow indicating sorting. To the right of the graphic, there is a text box that says 'You can sort records by up to four fields, in either ascending or descending order.' Below this text box, there are four rows of input fields. Each row has a number (1, 2, 3, 4) on the left, a dropdown menu in the middle, and a button labeled 'Ascending' on the right. The first dropdown menu is currently selected and shows the letter 'D'. At the bottom of the dialog box, there are four buttons: 'Cancel', '< Back', 'Next >', and 'Finish'.

Report Wizard

What sort order do you want for your records?

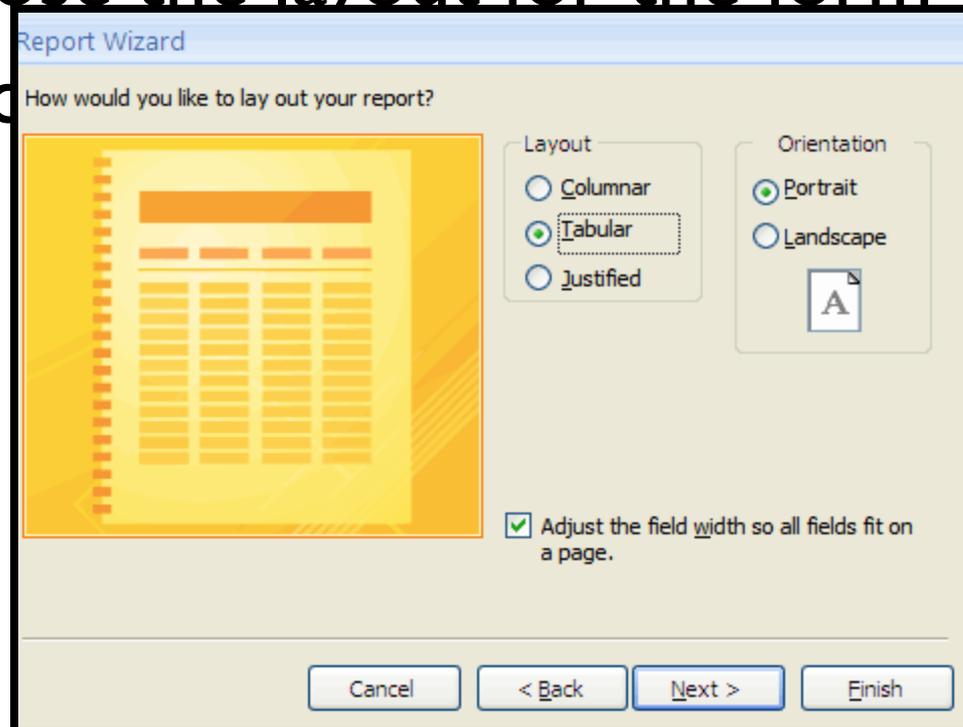
You can sort records by up to four fields, in either ascending or descending order.

1	<input type="text" value="D"/>	Ascending
2	<input type="text"/>	Ascending
3	<input type="text"/>	Ascending
4	<input type="text"/>	Ascending

Cancel < Back Next > Finish

Generating Reports

- Create a Report
- Chose the layout for the form
- Click

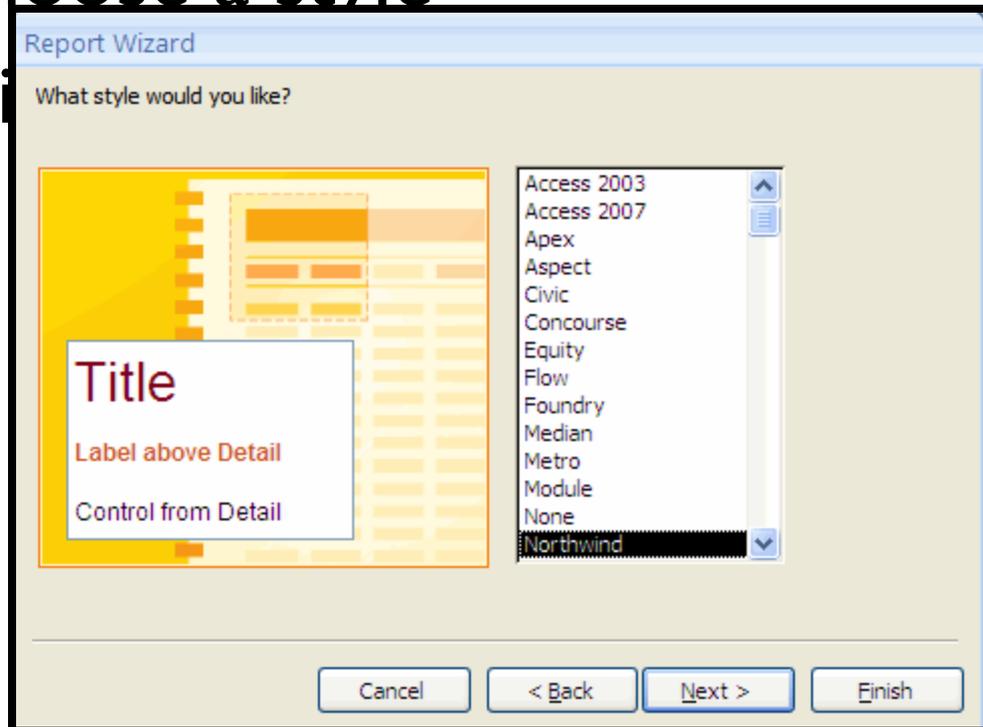


Generating Reports

- Create a Report

- Choose a style

- Click



Generating Reports

Create a Report

- Create a title for the form
- Choose whether you want to open the form to view it or modify the form's design
- Click Finish

Generating Reports

Print a Report

- Select the report you wish to print
- Right-click on the Report Name
- Click Print Preview
- Choose the appropriate layout, margins, and paper size in the Page Layout group
- Click Print
- Click OK