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Professionalism, customer care, and technological foresight



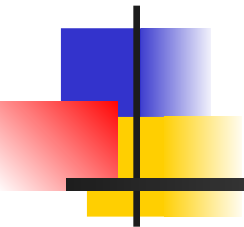
Micro Computer Application

Microsoft Access

Module V

Training Department

training@udsm.ac.tz





Course Objectives

- In this program you will learn more about exactly:
 - what a database is
 - what it is used for
 - how to perform simple database tasks, such as adding and deleting records.

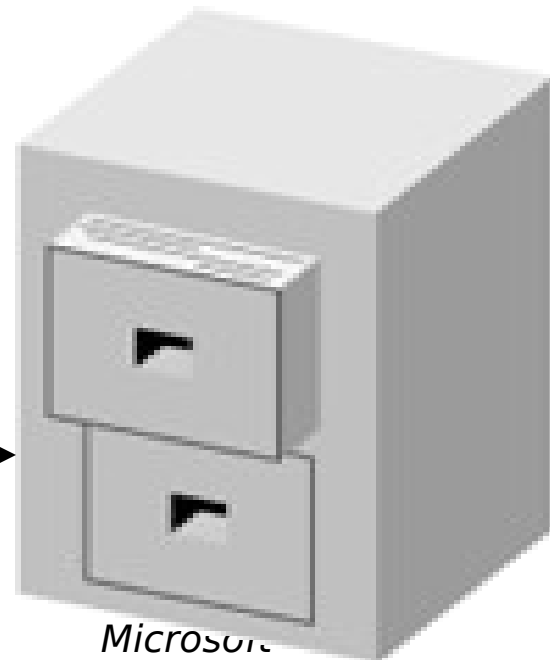


Database

- **Databases store and manage information related to a particular subject or purpose.**
- **Database** is a single organized collection of structured data in a data file with a minimum duplication of data items so as to provide consistent and control pool of information.

- **In its simplest form, a database is a collection of information that is organized into a list and stored in a manner similar to a file cabinet**

A File Cabinet →



Microsoft
Access



Database Cont....

- Whenever you make a list of information, such as names, addresses, products, or invoices, you are, in fact, creating a database
- Technically, you don't even have to use a database program to create a database.
- You can make a list of information in all kinds of programs, such as Microsoft Excel, Microsoft Word, Notepad program etc.



Database Cont....

- A database program, however, is much more powerful than a simple list you keep on paper or in a Microsoft Word document. A database program lets you:
 - Store Information:
 - A database stores lists of information that are related to a particular subject or purpose. It could be a list of home recipes, or business information, such as a list of hundreds of thousands of customers. A database also makes it easy to add, update, organize, and delete information.



Database Cont....

- Find Information:
 - You can easily and instantly locate information stored in a database.
 - For example, you can find all the customers with the last name "Johnson" or all the customers who live in the 55417 zip code and are older than 65.



Database Cont....

- Analyze and Print Information:
 - You can perform calculations on information in a database.
 - For example, you could calculate what percent of your total sales comes from Arusha Region. You can also present information in a professional-looking printed report.



Database Cont....

- Manage Information:
 - Databases make it easy to work with and manage huge amounts of information.
 - For example, with a few keystrokes you can change the area code for hundreds of customers in the (612) area code to a new (817) area code.

- Share Information:
 - Most database programs (including Microsoft Access) allow more than one user to view and work with the same information at once. Such databases are called databases.



Exercise 1

- What is a database?
- List down five things which you can perform by using the database program.



Getting Started

*Microsoft
Access*

12

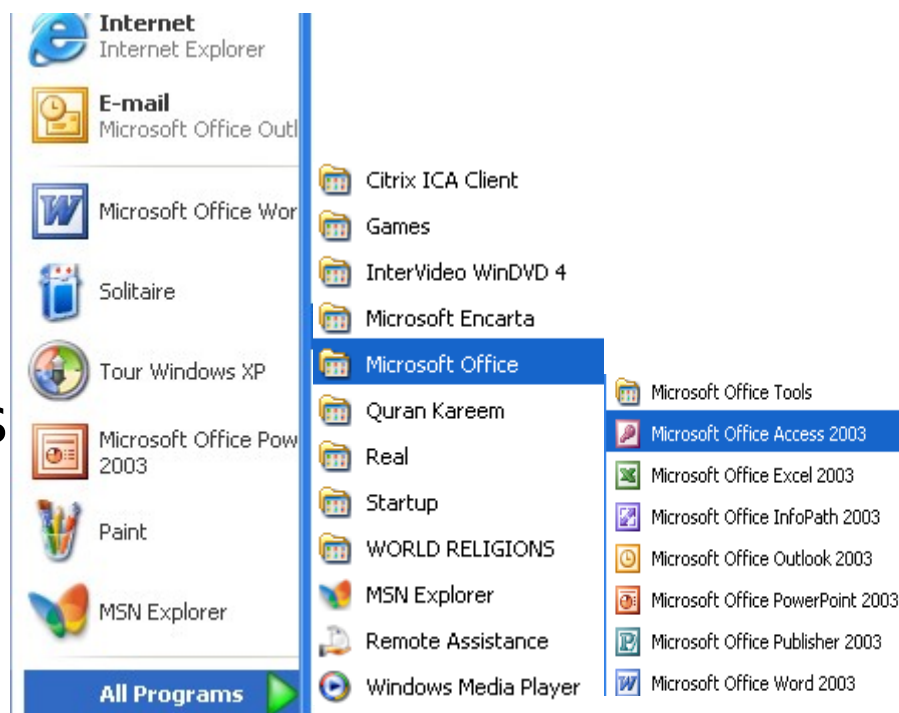


Access

There are several ways which you can use to start Microsoft Access

1st Option

- Click on Start button
- Select All Programs
- Select Microsoft Office
- Click on Microsoft Access





Starting Microsoft Access

2nd Option

If there is a shortcut Icon to Microsoft Access on the Desktop

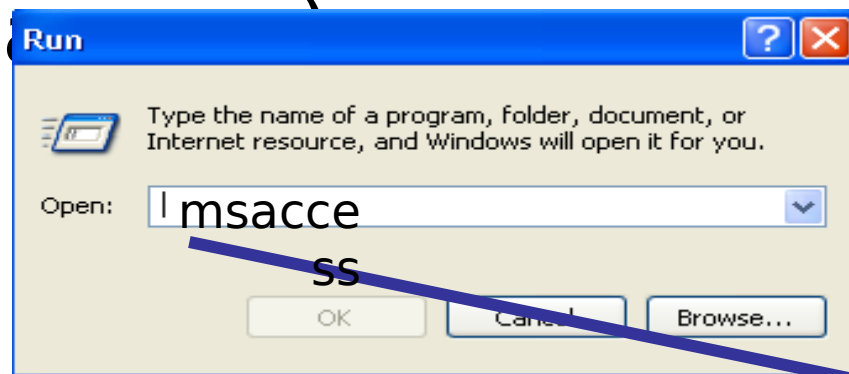
Double Click it



Starting Microsoft Access

3rd Option

- Click **Start** Button
- Click **Run** Command (Run box will



Type
msacces
S

- Click **OK** Button or press the **enter key** _

Microsoft
Access

15



Starting Microsoft Access

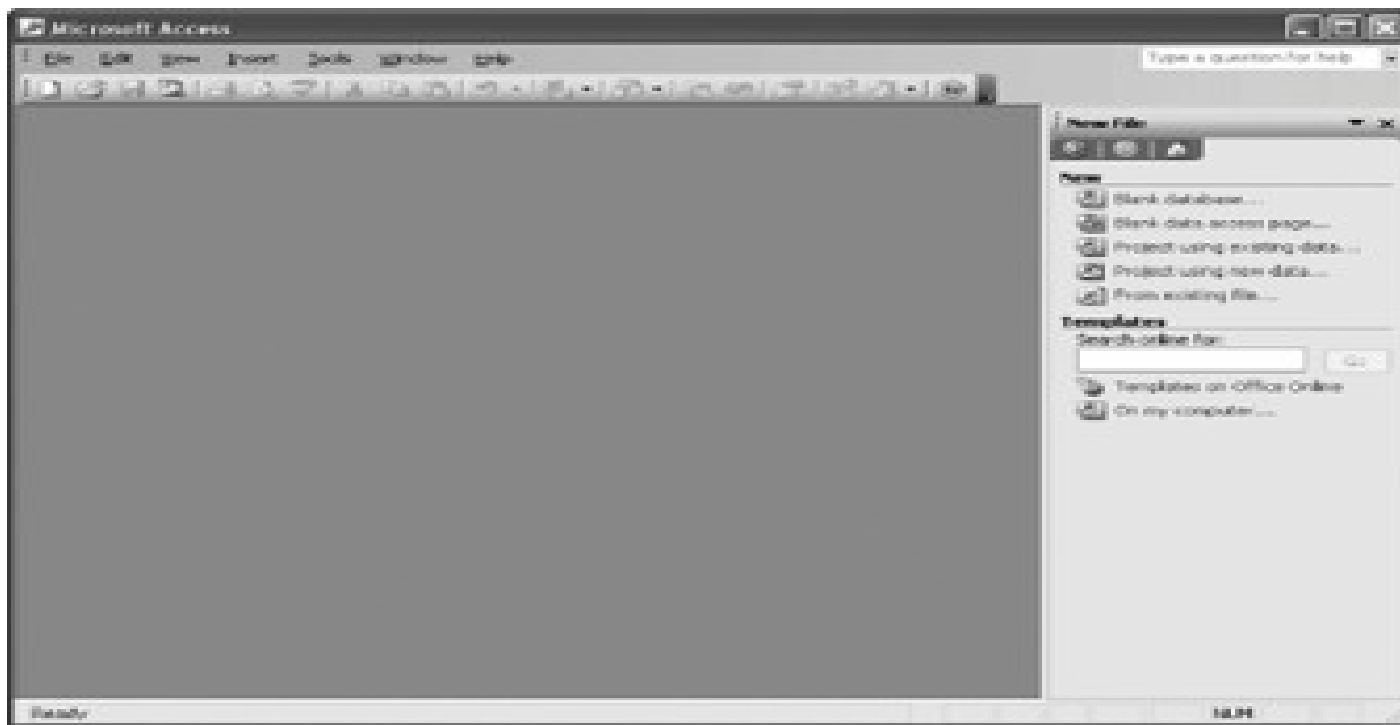
- 4rd Option
- Click once the program-Icon which is on your desktop
- Press the Enter Key





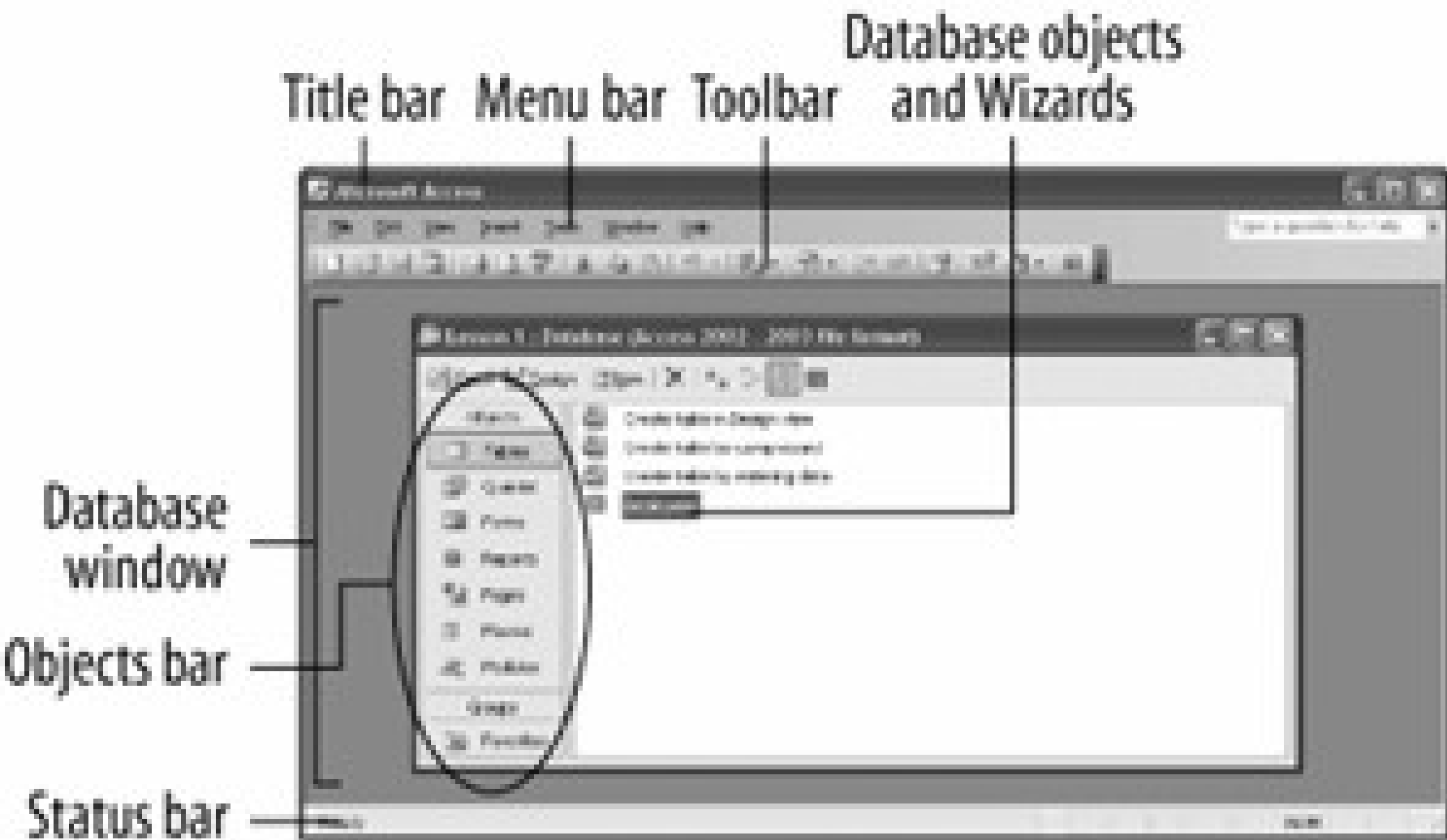
Starting Microsoft Access

- Access program appears and the task pane displays options for an existing database or creating a new database, as shown below



- Click the **Open** button on the **Microsoft Access** toolbar. ¹⁷

The Microsoft Access screen





Microsoft Access screen

- Title bar
 - Displays the name of the program you are currently using (in this case, Microsoft Access). The title bar appears at the top of all Windows programs.



Microsoft Access screen

- Menu bar
 - Displays a list of menus you use to give commands to Access.
 - Clicking a menu name displays a list of commands
 - For example, clicking the Edit menu name would display different formatting commands.



■ Toolbar

- Toolbars are short cuts they contain buttons for the most commonly used commands (instead of having to wade through several menus).
- The toolbars in Access change depending on what you are working on.
- The database toolbar (the toolbar currently displayed) contains buttons for the Access commands that you will use most often, such as opening and printing databases.



- Database window
 - The command center for a database, the Database window, allows you to view, create, edit, and modify database objects.



- Objects bar
 - The Objects bar categorizes the different types of database objects.
 - Each type of database object has its own icon to view a type of object, click its icon on the Objects bar.



- Database objects
 - Database objects are the basic components that make up a database.
 - Database objects include tables, queries, forms, reports, pages, macros, and modules.



Microsoft Access screen

- Status bar
 - Displays messages and feedback.
 - The Status bar is especially important in Access since it can give you meaningful information and messages when you are entering information into a database.



Menus Found in Microsoft Access

- File
 - File-related commands to open, close, print, and create new files.
- Edit
 - Commands to copy, cut, paste, find, and replace text.
- View
 - Commands to change how the screen is displayed.

- Insert
 - Items that you can insert into a database, such as graphics and charts.
- Format
 - Commands to format fonts, cell alignment, and borders.
- Records
 - Commands to add, delete, sort, and filter information.

- Tools
 - Tools such as the spell checker and macros. You can also change the default options for Microsoft Access here.
- Window
 - Commands to display and arrange multiple windows (if you have more than one file open).
- Help
 - Provides help with using Microsoft Access.



Database Components

- An Access database consists of several different components. Each component listed is called an *object*.
- Listed below are the names and descriptions of the different objects you can use in Access. In this program you will learn more about:
 - Tables
 - Queries
 - Forms
 - Reports.



Database Components

■ Tables:

- tables are where the actual data is defined and entered. Tables consist of records (rows) and fields (columns).



Database Components

■ Queries:

- queries are basically questions about the data in a database.
- A query consists of specifications indicating which fields, records, and summaries you want to see from a database.
- Queries allow you to extract data based on the criteria you define.



Database Components

■ Forms:

- forms are designed to ease the data entry process. For example, you can create a data entry form that looks exactly like a paper form . People generally prefer to enter data into a well-designed form, rather than a table.



Database Components

■ Reports:

- when you want to print records from your database, design a report. Access even has a wizard to help produce mailing labels.



Database Components

■ Pages:

- a data access page is a special type of Web page designed for viewing and working with data from the Internet or an intranet. This data is stored in a Microsoft Access database or a Microsoft SQL Server database.



Database Components

■ **Macros:**

- a macro is a set of one or more actions that each performs a particular operation, such as opening a form or printing a report. Macros can help you automate common tasks. For example, you can run a macro that prints a report when a user clicks a command button.



Database Components

- **Modules:**

- a module is a collection of Visual Basic for Applications declarations and procedures that are stored together as a unit.



Creating a new database

- To create a new database, choose **Blank Database** and specify a new file name for the database.
- Click on the OK button to create the new database.



Open an Existing Database

- To open an existing database:
 - Choose **Open an Existing Database**
 - highlight *More Files...*
 - click on the OK button
- To exit Access:
 - Choose the File menu
 - Click Exit



Exercise 2

- List down the Database components



TABLES

*Microsoft
Access*

40



Tables

- Tables are the main units of data storage in Access.
- A table is made up of one or more *columns* (or *fields*) and that a given column may appear in more than one table in order to indicate a relationship between the tables.



Creating Tables

- For example we want to create the business database we conclude that two tables would be sufficient to store the data about **Customers** and their bank **Accounts**.



Creating Tables

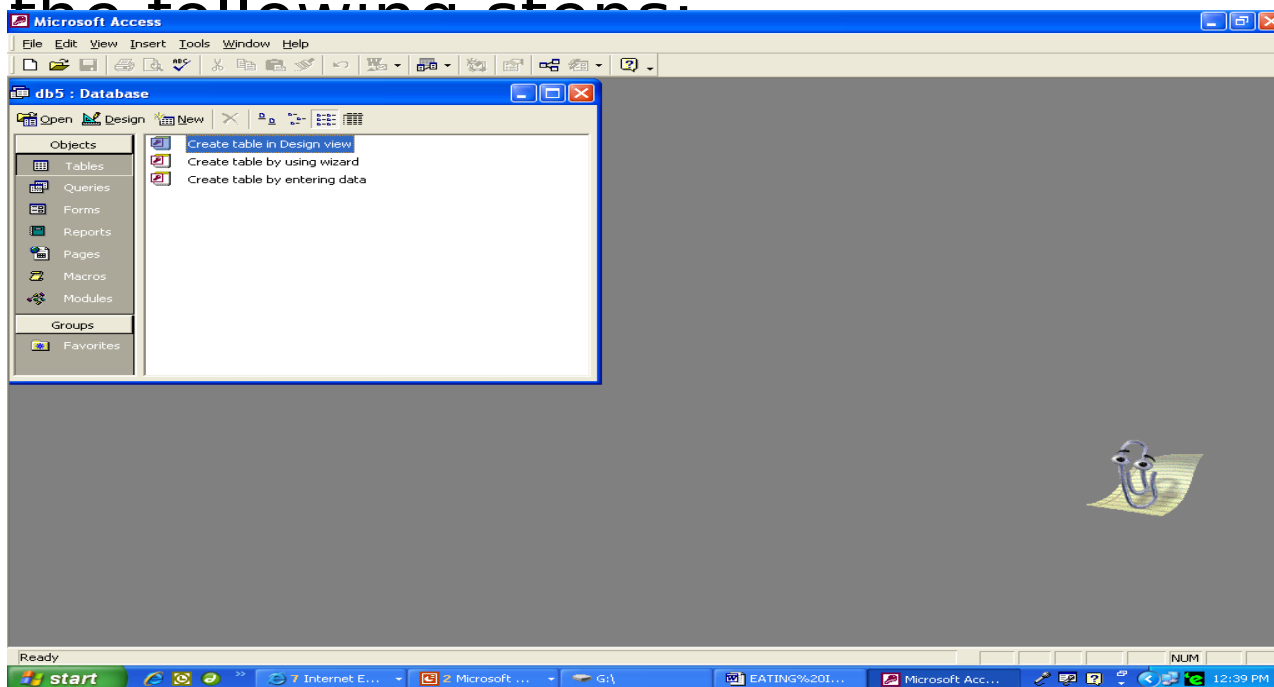
- There are a number of ways to create a table in Access.
- Access provides *wizards* that guide the user through creating a table by suggesting names for tables and columns.
- The other main way to create a table is by using the *Design View* to manually define the columns (fields) and their data types.



Creating Tables

- While using the wizards is a fast way to create tables, the user has less control over the column names (fields) and data types.
- In this lesson, we will describe the steps to create a table using the *Design View*.
- You will experiment on your own with using the Create Table wizard.

- To create a table in Access using the Design View
- Make sure the Tables tab is clicked and perform the following steps:



- Double click on Create Table in Design view

Microsoft
Access



Table Design View

- The Table Design View will appear. Fill in the **Field Name**, **Data Type** and **Description** for each column/field in

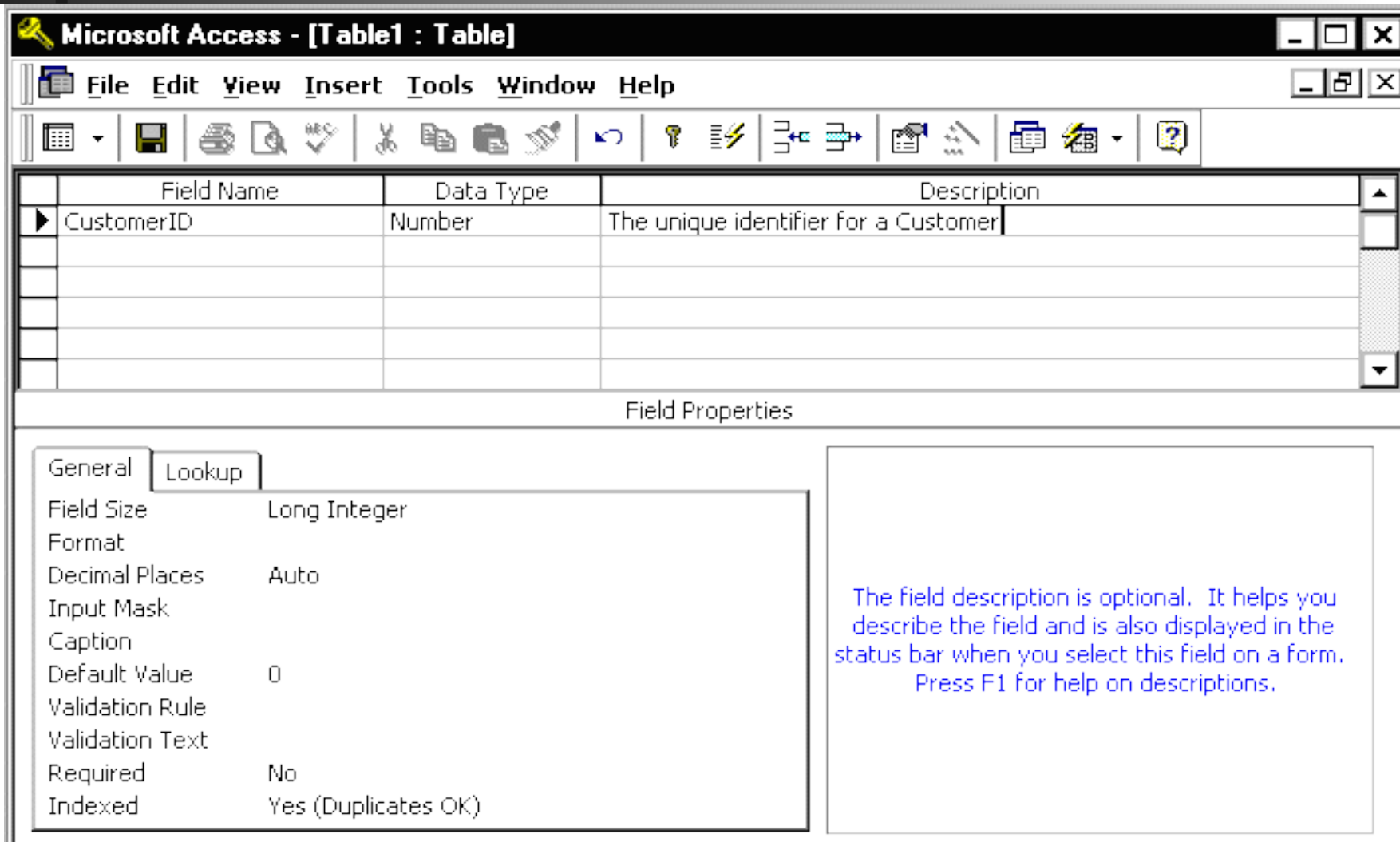
The screenshot shows the Microsoft Access Table Design View for a table named 'Table1'. The table has three columns: 'Field Name', 'Data Type', and 'Description'. The 'Field Name' column contains a single entry '1'. The 'Data Type' and 'Description' columns are empty. The 'Field Properties' pane is visible at the bottom, with the 'General' tab selected. The 'Lookup' tab is also visible. The 'Field Name' column has a small '1' in the first row, and the 'Data Type' and 'Description' columns are empty. The 'Field Properties' pane is at the bottom, with 'General' and 'Lookup' tabs.

Field Name	Data Type	Description
1		

Field Properties

General | Lookup

Table Design View



The screenshot shows the Microsoft Access interface in Table Design View for a table named 'Table1'. The table has three columns: 'Field Name', 'Data Type', and 'Description'. The first row contains 'CustomerID', 'Number', and 'The unique identifier for a Customer'. Below the table is the 'Field Properties' section, which includes tabs for 'General' and 'Lookup'. The 'General' tab is active, showing properties for the selected field: Field Size (Long Integer), Format, Decimal Places (Auto), Input Mask, Caption, Default Value (0), Validation Rule, Validation Text, Required (No), and Indexed (Yes (Duplicates OK)). A status bar message on the right states: 'The field description is optional. It helps you describe the field and is also displayed in the status bar when you select this field on a form. Press F1 for help on descriptions.'

Field Name	Data Type	Description
CustomerID	Number	The unique identifier for a Customer

Field Properties

General | **Lookup**

Field Size: Long Integer
 Format:
 Decimal Places: Auto
 Input Mask:
 Caption:
 Default Value: 0
 Validation Rule:
 Validation Text:
 Required: No
 Indexed: Yes (Duplicates OK)

The field description is optional. It helps you describe the field and is also displayed in the status bar when you select this field on a form. Press F1 for help on descriptions.

Note that the default name given for the table is Table1_



Table Design View

- In a later step, we will assign an appropriate name for this table.
- Fill in the information for the fields as

Field Name	Data Type	Description
CustomerID	Number	The Unique Identifier for a Customer
Name	Text	The Name of the Customer
Address	Text	The Address of the Customer
City	Text	The City of the Customer
State	Text	The home State of the Customer
Zip	Text	The Zip Code of the Customer

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48



Table Design View

- A figure below showing the design view with the new table definition filled in

The screenshot shows the Microsoft Access interface in Design View for a table named 'Table1 : Table'. The window title bar reads 'Microsoft Access - [Table1 : Table]'. The menu bar includes File, Edit, View, Insert, Tools, Window, and Help. The toolbar contains various icons for table design, including a grid icon, save, print, zoom, undo, redo, and a key icon for primary keys. The table design grid has four columns: Field Name, Data Type, and Description. The fields are CustomerID (Number), Name (Text), Address (Text), City (Text), State (Text), and Zip (Text). CustomerID is marked as the primary key with a key icon in the first column.

	Field Name	Data Type	Description
	CustomerID	Number	The Unique Identifier for a Customer
	Name	Text	The Name of the Customer
	Address	Text	The Address of the Customer
	City	Text	The City of the Customer
	State	Text	The home State of the Customer
▶	Zip	Text	The Zip Code of theCcustomer



Primary keys

- The power of a relational database system such as Microsoft Access comes from its ability to quickly find and bring together information stored in separate tables using queries, forms, and reports.
- In order to do this, each table should include a field or set of fields that uniquely identifies each record stored in the table.



Primary keys

- This information is called the primary key of the table.
- Once you designate a primary key for a table, to ensure uniqueness, Microsoft Access will prevent any duplicate or Null values from being entered in the primary key fields.
- There are three kinds of primary keys that can be defined in Microsoft Access: AutoNumber, single-field, and multiple-field.



Primary keys

- **AutoNumber primary keys**

- An AutoNumber field can be set to automatically enter a sequential number as each record is added to the table.
- Designating such a field as the primary key for a table is the simplest way to create a primary key.
- If you don't set a primary key before saving a newly created table, Microsoft Access will ask if you want it to create a primary key for you.
- If you answer Yes, Microsoft Access will create an AutoNumber primary key.



Primary keys

- **Single-field primary keys**
 - If you have a field that contains unique values such as ID numbers or part numbers, you can designate that field as the primary key.



Primary keys

- **Multiple-field primary keys**
 - In situations where you can't guarantee the uniqueness of any single field, you may be able to designate two or more fields as the primary key.
 - The most common situation where this arises is in the table used to relate two other tables in a many-to-many relationship



Inserting a Primary keys

- Click on the **CustomerID** field with the *Right* mouse button
- Choose Primary Key from the pop-up menu.

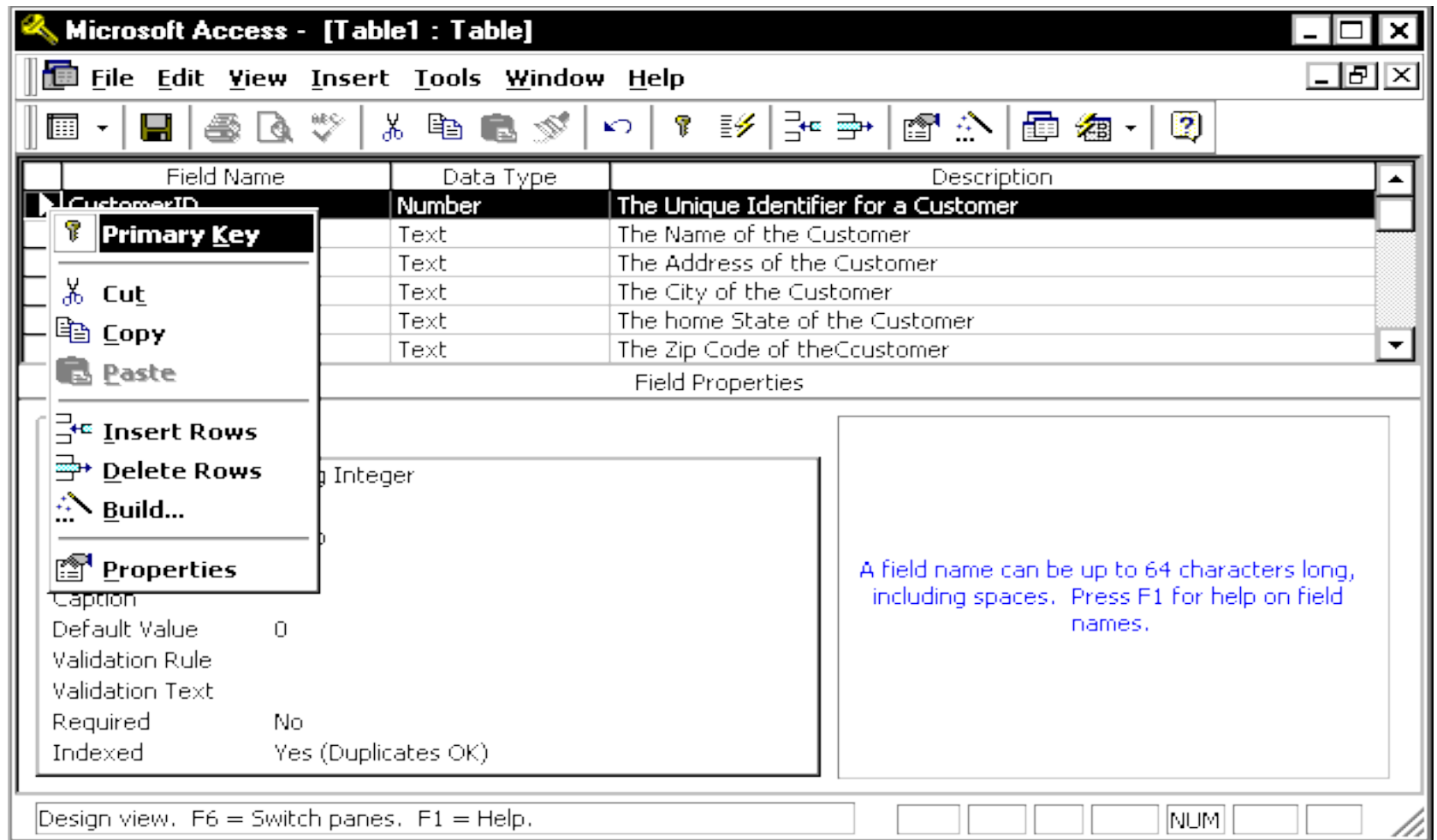
OR

- Click the Edit Menu
- select Primary Key

OR

- Click the Primary Key Icon on the Toolbar

Microsoft Access - Primary keys



Notice that a small key appears next to the field name on the left side. Note: To remove a primary key, simply repeat this procedure to toggle the primary key off.

Microsoft
Access

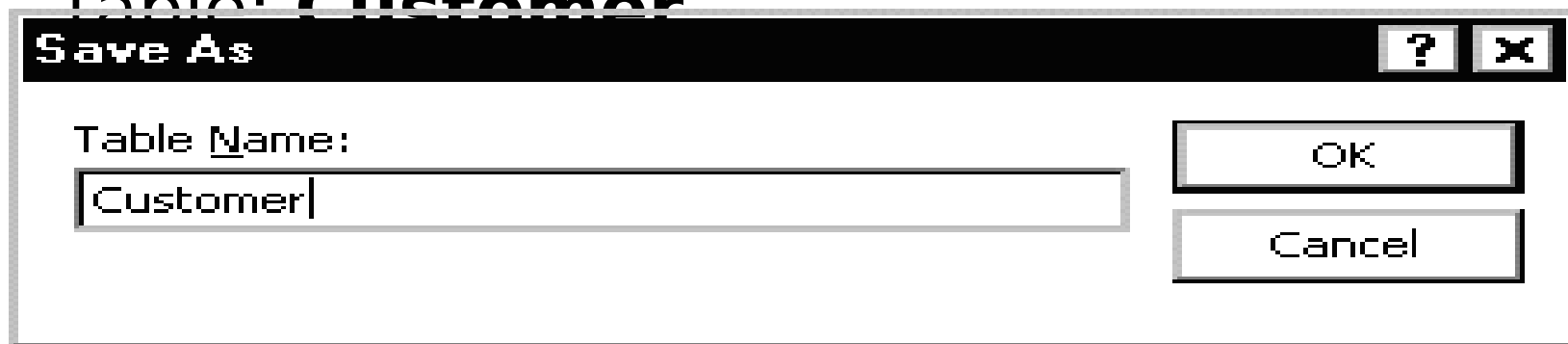


Saving a Table

- As a final step, the table must be saved.
 - Click the File menu
 - Choose the Save command.

Saving a Table

- A dialog box will appear where the name of the new table should be specified. Note that Access gives a default name such as **Table1** or **Table2**. Simply type over this default name with the name of the table you prefer. For this example, name the table: **Customer**



- Click on the OK button.

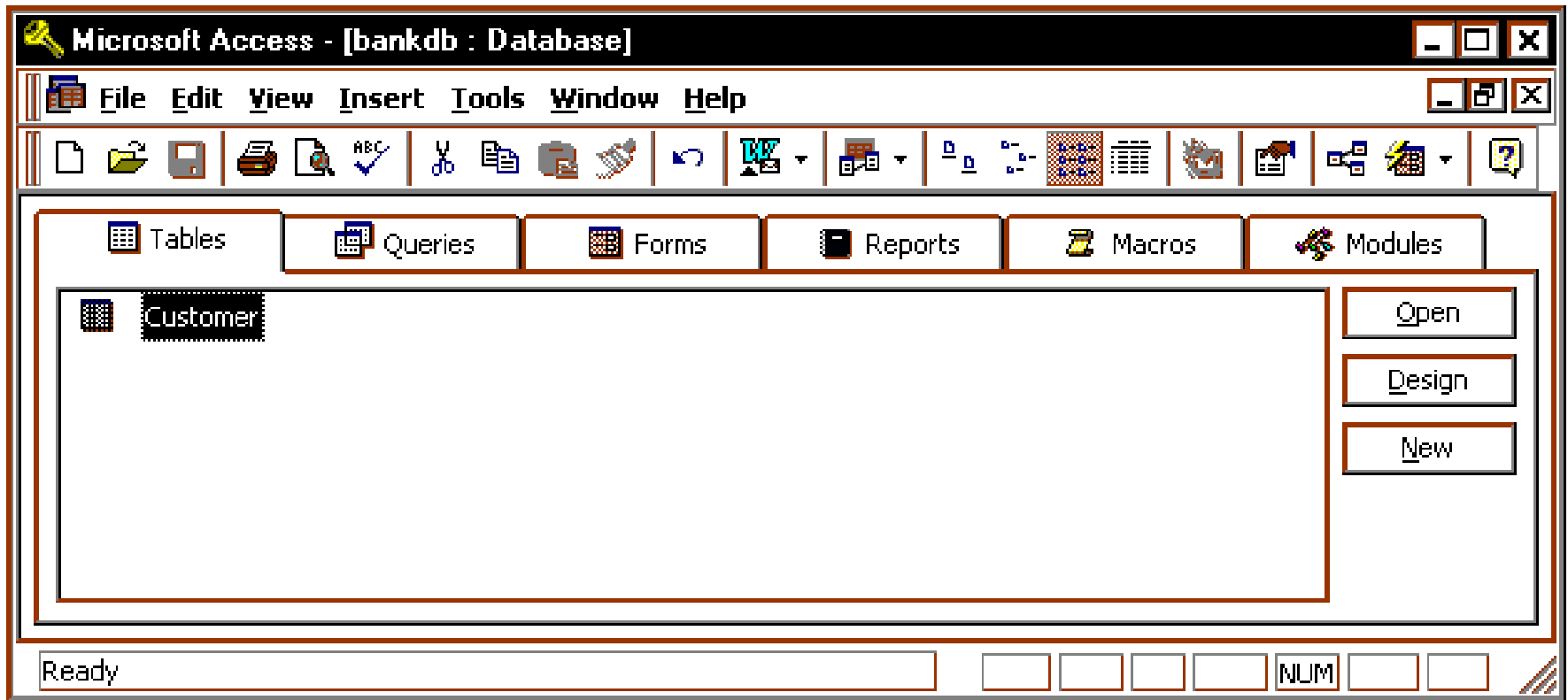


Closing a Table

- At this point, the new Customer table has been created and saved.
- Switch back to the Access main screen by pulling down the File menu and choosing the Close menu item.
- This will *close* the Design View for the table and display the Access main screen.

Closing a Table

- Notice that the new Customer table appears below the Table tab.





Field names

- When defining the fields (columns) for a table, it is important to use field names that give a clear understanding of the data contents of the column. For example, does the field CNO indicate a Customer Number or a Container Number ?
- Field names in Access can be up to 64 characters long and may contain spaces. **However, the use of spaces in field names and table names is strongly discouraged.**



Field names

- If you wish to make field names easier to read, consider using an underscore character to separate words. However be certain no spaces appear before or after the underscore.
- The following table summarizes some different ways to give field names:
- (See the next slide)



Field names

Description	Bad	Good
Unique identifier for a customer	CID	CustomerID or Customer_ID
Description for a product	PDESC	ProductDescription
Employee's home telephone number	Employee_home_telephone_number	HomePhone
Bank account number	BA#	AccountNumber

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63



Exercise 3: Creating a Table

- Create the *Accounts* table by following the same steps used to create the Customer table.
- Click on the New button and highlight *Design View* in the dialog box that appears. Then click on the OK button.
- The Table Design View will appear. Fill in the **Field Name**, **Data Type** and **Description** for each column/field in the Accounts table as shown in the next slide.



Exercise 3 Cont.....

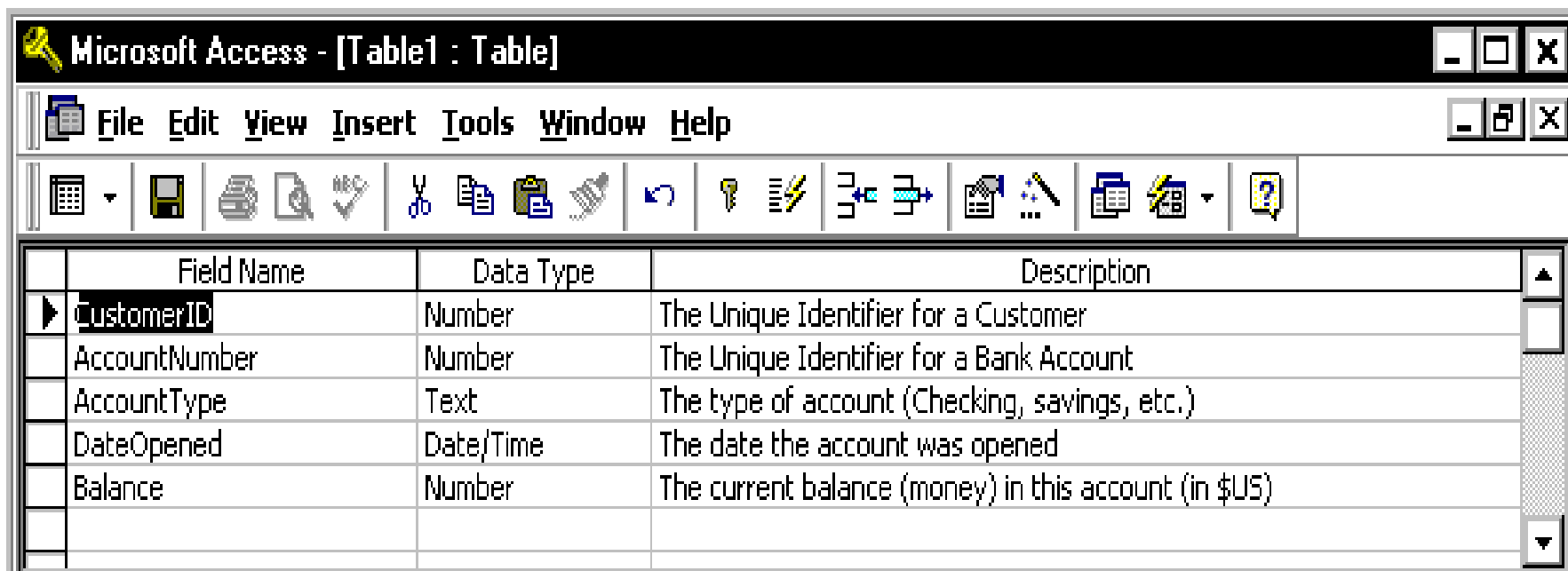
Field Name	Data Type	Description
CustomerID	Number	The Unique Identifier for a Customer
AccountNumber	Number	The Unique Identifier for a Bank Account
AccountType	Text	The type of account (Checking, savings, etc.)
DateOpened	Date	The date the account was opened
Balance	Number	The current balance (money) in this account (in \$US)

Microsoft
Access

65

Exercise 3 Cont.....

- After finishing your design view with the new table definition filled in will look like the figure below:



Field Name	Data Type	Description
CustomerID	Number	The Unique Identifier for a Customer
AccountNumber	Number	The Unique Identifier for a Bank Account
AccountType	Text	The type of account (Checking, savings, etc.)
DateOpened	Date/Time	The date the account was opened
Balance	Number	The current balance (money) in this account (in \$US)



Exercise 3 Cont....

- Define a Primary Key for the Accounts table. on the **AccountNumber** field.
- Save the new Accounts table with the File name **Accounts**.

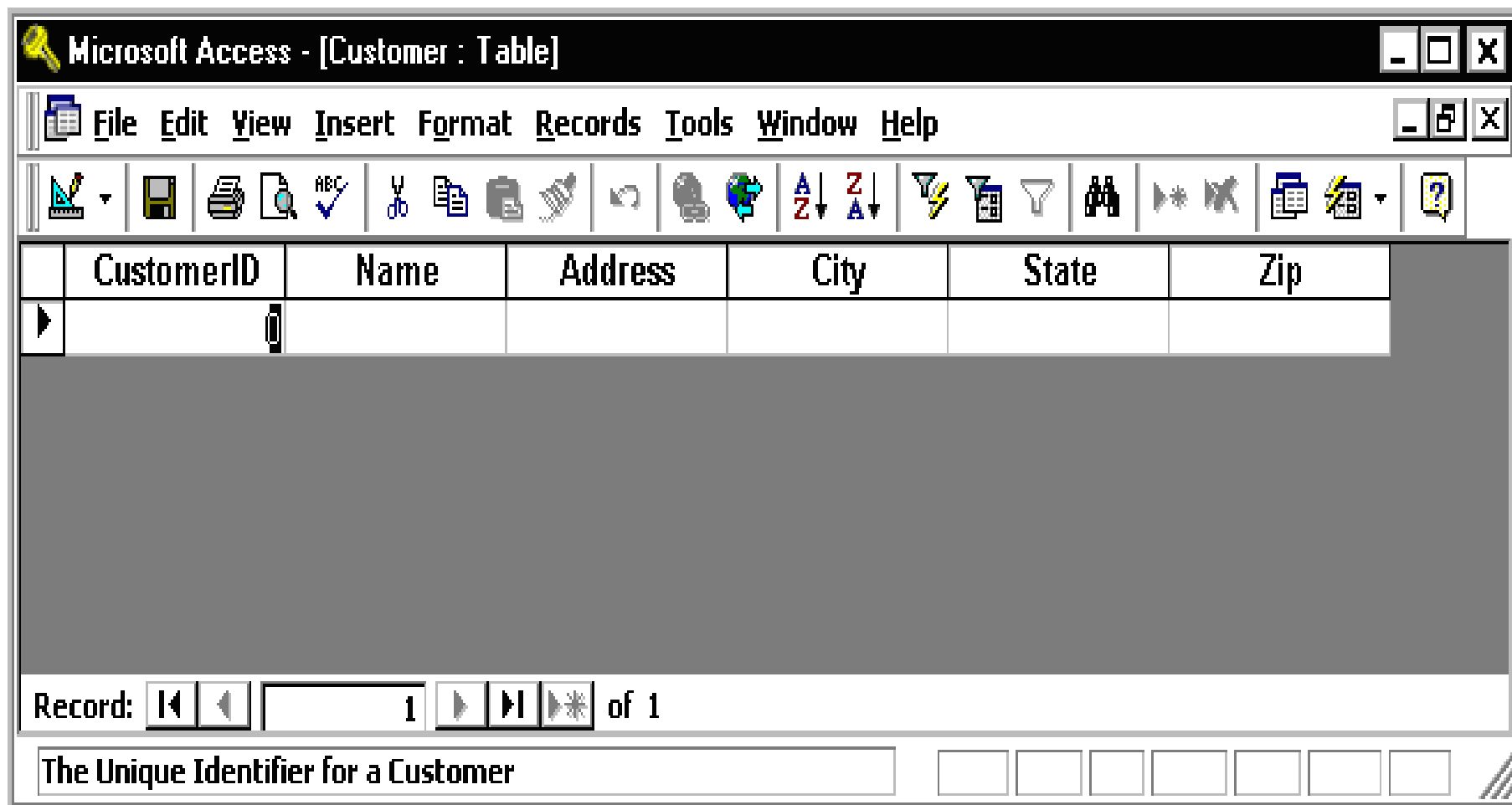


Viewing and Adding Data to a Table

- Data can be added, deleted or modified in tables using a simple spreadsheet-like display.
- To bring up this view of a single table's data, highlight the name of the table and then click on the Open button.
- In this view of the table, shown in the next slide the fields (columns) appear across the top of the window and the rows or records appear below. This view is similar to how a spreadsheet would be designed.



Viewing and Adding Data to a Table



Note at the bottom of the window the number of records is displayed. In this case, since the table was just created, only one blank record appears.

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69



Viewing and Adding Data to a Table

- To add data to the table, simply type in values for each of the fields (columns).
- Press the Tab key to move between fields within a record.
- Use the up and down arrow keys to move between records.
- Enter the data as given in the next slide

Viewing and Adding Data to a Table



Custome rID	Name	Address	City	Stat e	Zip
1001	Name Mr. Smith	123 Lexington	Smithvill e	KY	91232
1002	Mrs. Jones	12 Davis Ave.	Smithvill e	KY	91232
1003	Mr. Axe	443 Grinder Ln.	Broadvill e	GA	81992
1004	Mr. & Mrs. Builder	. 661 Parker Rd.	Streetvill e	GA	81990



Viewing and Adding Data to a Table

Microsoft Access - [Customer : Table]

File Edit View Insert Format Records Tools Window Help

	CustomerID	Name	Address	City	State	Zip
	1001	Mr. Smith	123 Lexington	Smithville	KY	91232
	1002	Mrs. Jones	12 Davis Ave.	Smithville	KY	91232
	1003	Mr. Axe	443 Grinder Ln.	Broadville	GA	81992
▶	1004	Mr. & Mrs. Buik	661 Parker Rd.	Streetville	GA	81990
*	0					

Record: ◀ ◀ 4 ▶ ▶ ▶* of 4

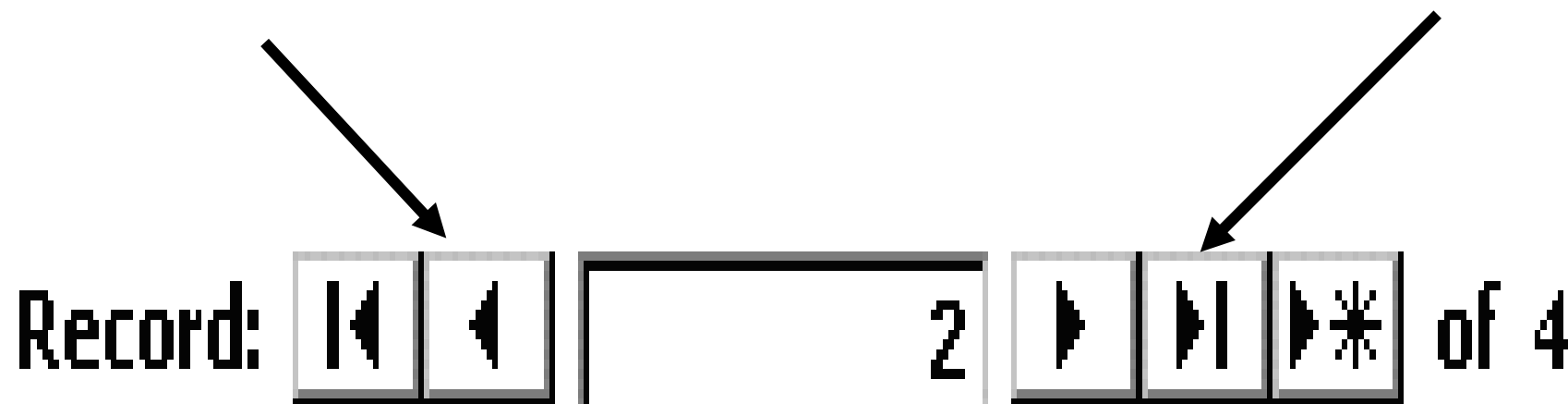
The Zip Code of the Customer



saving the new data

- Click the File menu
- Choose Save

- To navigate to other records in the table, use the navigation bar at the bottom of the screen





Modifying existing data

- Simply navigate to the record of interest and tab to the appropriate field.
- Use the arrow keys and the delete or backspace keys to change the existing data



Deleting a record

- First navigate to the record of interest.
- Click the Edit menu
- Click Delete



Closing the table

- Return to the Access main screen
- Click the File menu
- Close.



Exercise 4. Adding Data to a Table

- For this exercise, open up the Accounts table and add data for the seven accounts table
- Be sure to enter the data exactly as shown including the capitalization of the data in the AccountType field. e.g., type Savings instead of savings or SAVINGS.



Exercise 4 Cont.....

- When entering the dates, type in the full four digits for the year
- By default, Access only displays the last two digits of the year; however, all four digits are stored in the table
- Save the data when you are done
- The figure in the next slide shows the Accounts table and data as it should appear when you are done with this exercise.

Exercise 4 Cont.....

Microsoft Access - [Accounts : Table]

File Edit View Insert Format Records Tools Window Help

	CustomerID	AccountNumber	AccountType	DateOpened	Balance
	1001	9987	Checking	10/12/89	4000
	1001	9980	Savings	10/12/89	2000
	1002	8811	Savings	1/5/92	1000
	1003	4422	Checking	12/1/94	6000
	1003	4433	Savings	12/1/94	9000
	1004	3322	Savings	8/22/94	500
▶	1004	1122	Checking	11/13/88	800
*	0	0			0

Record: 7 of 7

The current balance (money) in this account (in \$US)

NUM



Creating Relationships Between tables

- Recall that one of the main characteristics of relational databases is the fact that all tables are related to one another.
- In the Bank database thus far, the Customers table is related to the Accounts table by virtue of the CustomerID field appearing in both tables.
- Access has a means to make this relationship explicit using the Relationships screen.
- Access uses this information when designing reports, forms and queries that require more than one table to be displayed

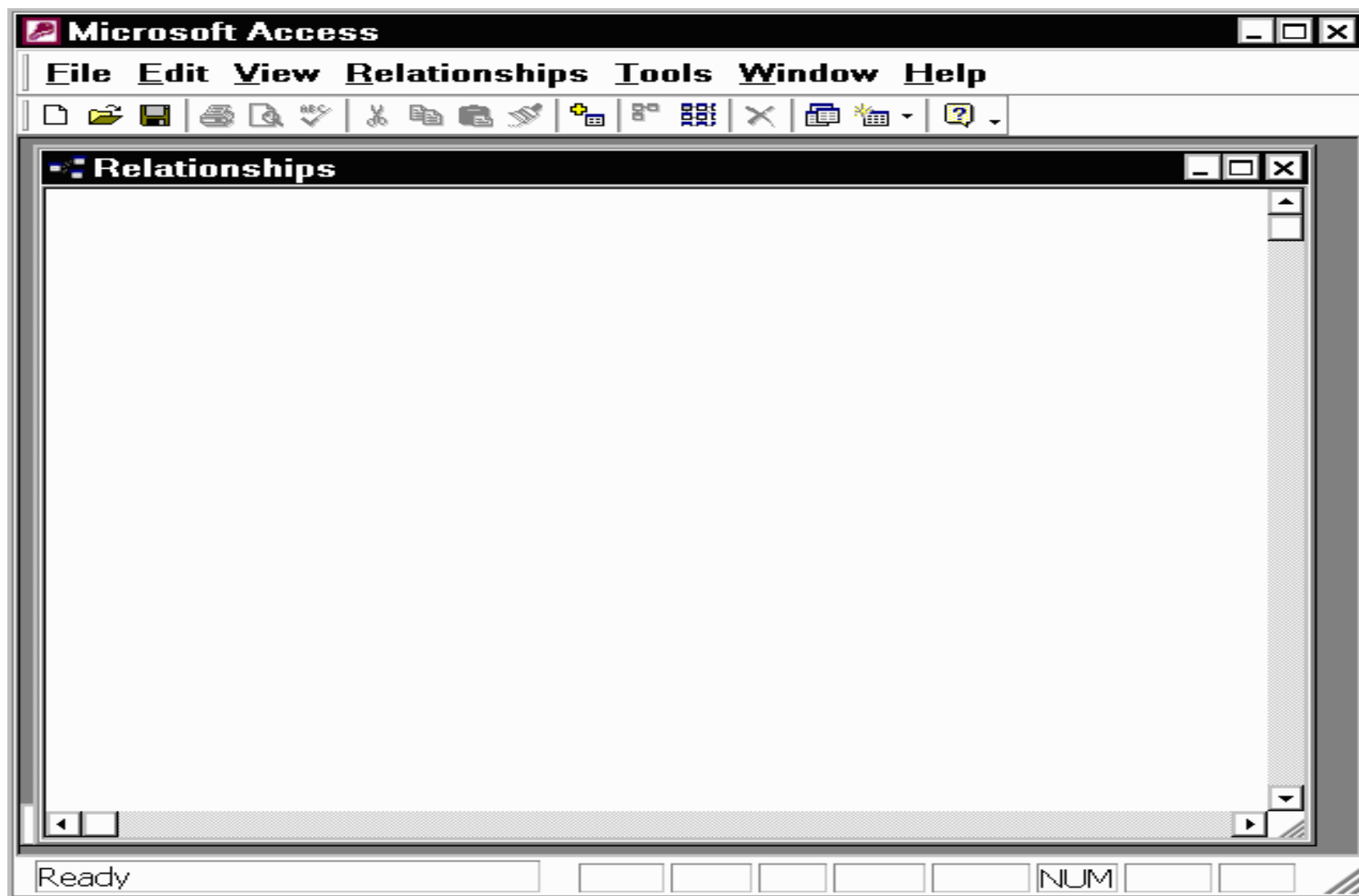


Creating Relationships

- Click the Tools menu
- Select Relationships
- The blank Relationships screen will appear as follows (See next Slide)



Creating Relationships

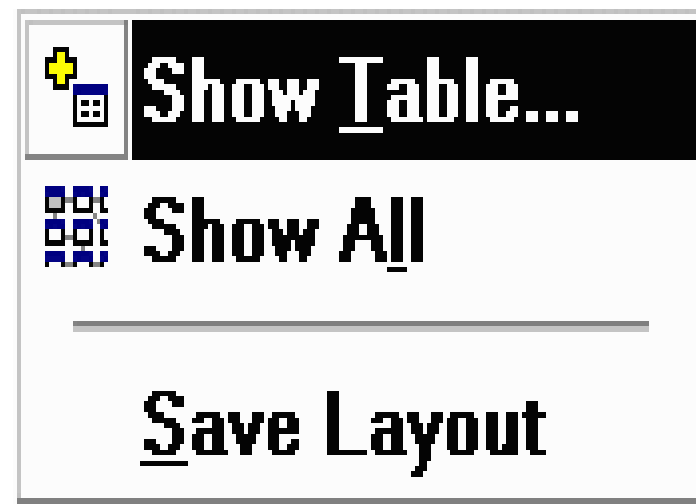


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65

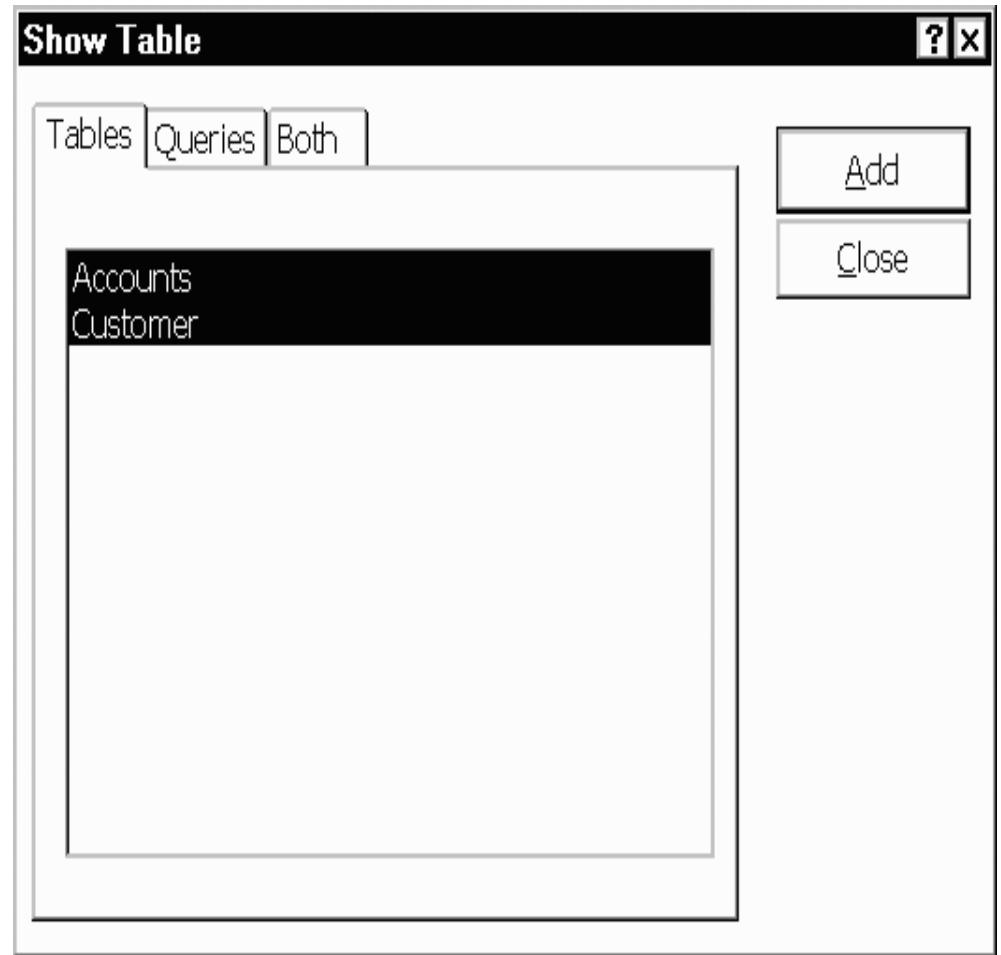
Creating Relationships

- The next step is to display all of the tables on the relationships screen.
- Right click anywhere on the Relationships screen and select the Show Tables... option from the pop-up menu:



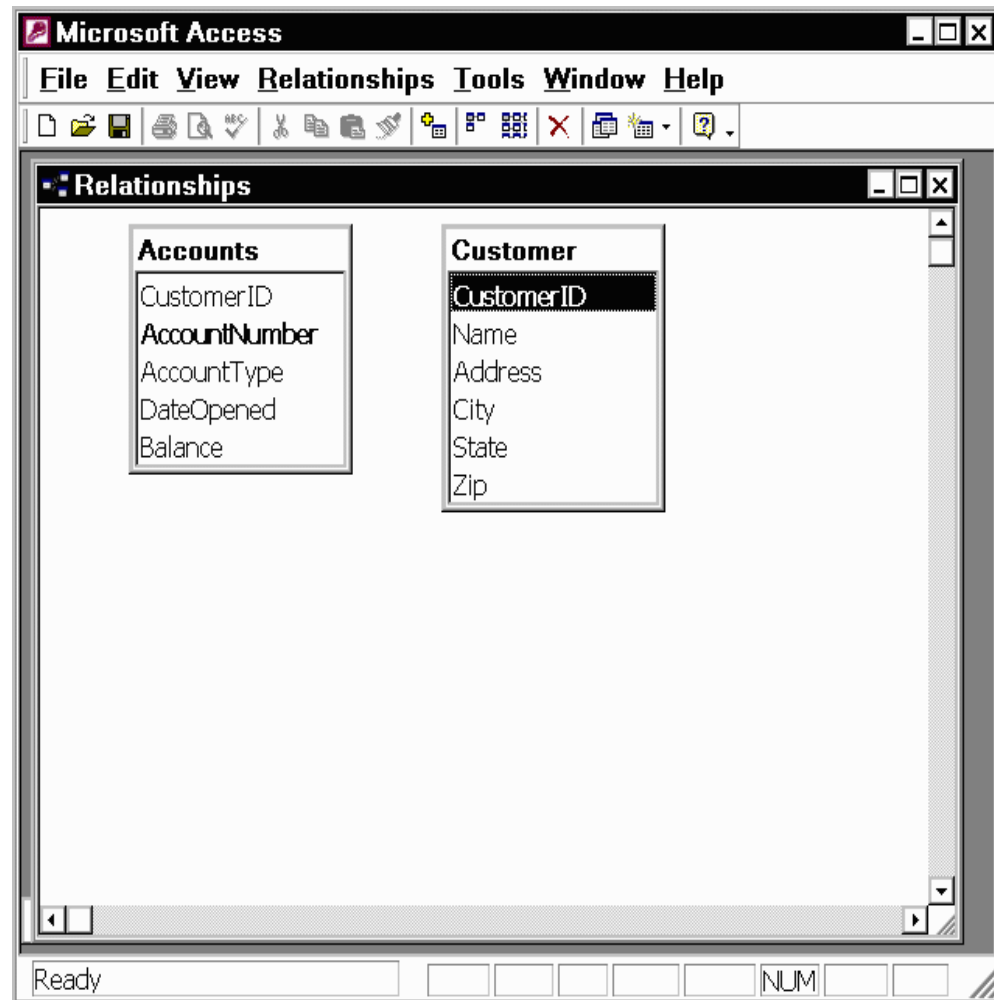
Creating Relationships

- When the Show Table dialog box appears, highlight both the **Customers table** and the **Accounts table** as shown
- Then click on the Add button
- Click on the Close button



Creating Relationships

- The Relationships screen will now reappear with the two tables displayed as shown





Creating Relationships

- To connect the Customers table with the Accounts table to form a relationship
 - Click on the CustomerID field in the Customers table and drag it over on top of the CustomerID field on the Accounts table.
 - Upon releasing the mouse button, the Edit Relationships dialog box will appear as shown on the next slide



Creating Relationships

Edit Relationships [?] [X]

Table/Query: Customer Related Table/Query: Accounts

CustomerID	CustomerID

☐ Enforce Referential Integrity

☐ Cascade Update Related Fields

☐ Cascade Delete Related Records

Relationship Type: One-To-Many

Create
Cancel
Join Type..
Create New..

Access will do its best to determine the Relationship Type (almost always *One-to-Many*).



Creating Relationships

- For this example, Access knows that CustomerID is a key of the Customer table so it chooses this field as the "One" side. This makes the Accounts table the "Many" side as *One* customer may have *Many* accounts
- One additional step to be taken is the check off the box labeled "Enforce Referential Integrity"

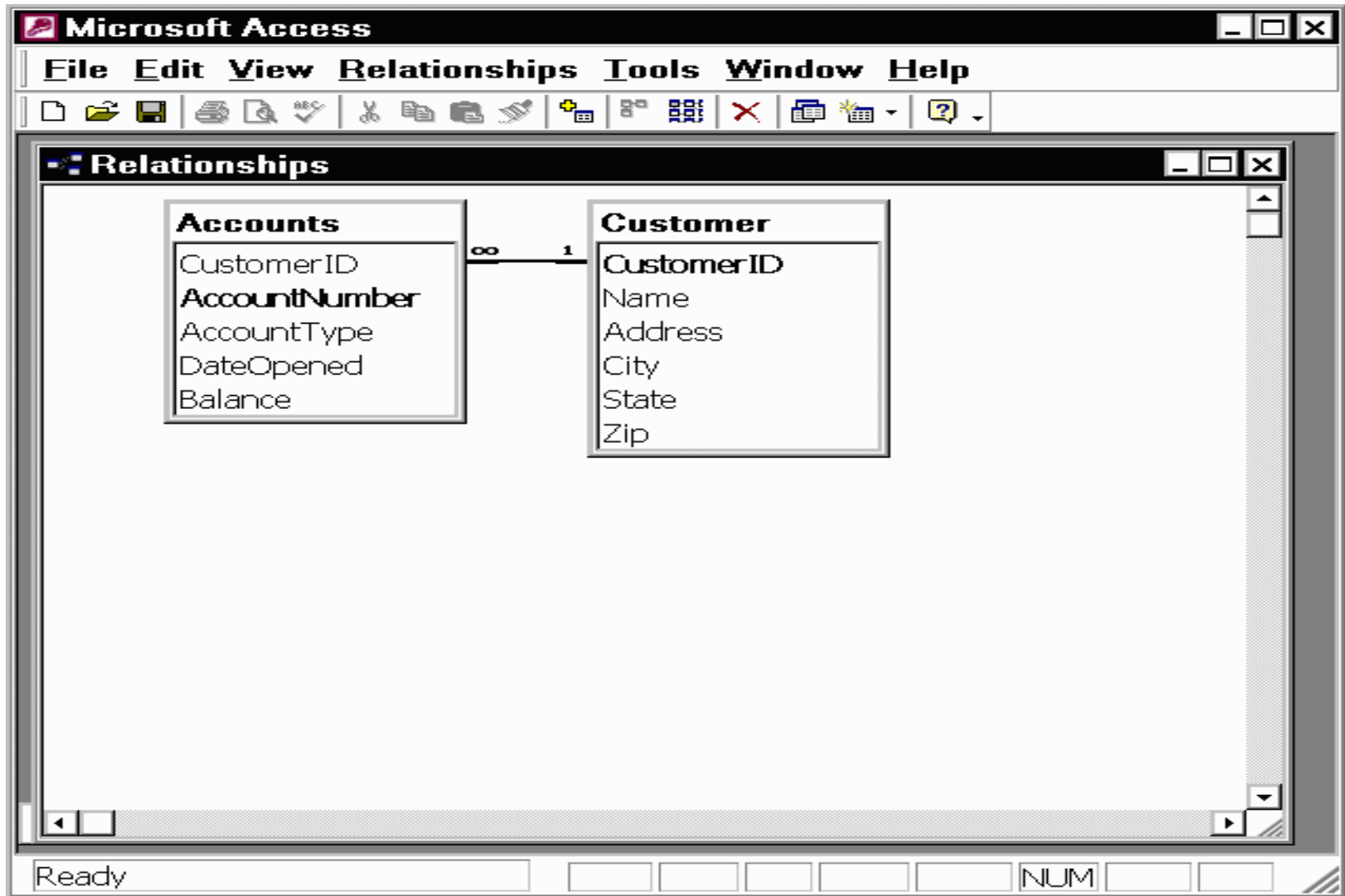


Creating Relationships

- This option puts constraints into effect such that an Accounts record can not be created without a valid Customer and Access will also prevent a user from deleting a Customer record if a related Accounts record exists.
- At this point, click on the Create button to create the relationship.
- The Relationships screen should reappear with the new relationship in place as follows:



Creating Relationships





Creating Relationships

- Note the symbols "1" (indicating the "One" side) and the infinity symbol (indicating the "Many" side) on the relationship.
- Close the relationships screen
- Select Yes to save the changes to the Relationships layout



Creating and Viewing Tables

- Click on the Tables tab on the Access main screen
- Click on the New button.
- Choose the Design View and click the OK button.
- Fill in the name, data type and description of each of the fields in the table.



Creating and Viewing Tables

- Designate a primary key by clicking on one of the fields with the right mouse button and then choose Primary Key from the pop-up menu.
- Save the table by pulling down the File menu and choosing Save.
- Close the new table by pulling down the File menu and choosing Close



To change the design of an existing table

- Click on the **Tables** tab on the Access main screen
- Highlight the name of the table to be modified and click on the Design button.
- Make the necessary changes.
- Save the table by pulling down the File menu and choosing Save.
- Close the table by pulling down the File menu and choosing Close



Add, delete or change data in an existing table

- Click on the **Tables** tab on the Access main screen
- Highlight the name of the table to be modified and click on the Open button.
- Make the necessary changes to the data.
- Save the table data by pulling down the File menu and choosing Save.
- Close the table by pulling down the File menu and choosing Close



To create or edit relationships between tables

- Pull down the Tools menu and select the Relationships menu item.
- To display tables, right click and choose Add Tables
- To create new relationships, drag a key field from one table and drop it on the associated field in another table
- To edit an existing relationship, double click on the relationship line.
- To delete an existing relationship, click on the relationship line and press the delete key



QUERIES

*Microsoft
Access*

98



Creating and Running Queries

- Queries are a fundamental means of accessing and displaying data from tables.
- Queries can access a single table or multiple tables. Examples of queries for our bank database might include:
 - Which Customers live in Georgia ?
 - Which Accounts have less than a \$500 balance ?
- In this section, we show how to use the Access Wizards to create queries for a single table and for multiple tables



Single Table Queries

- In this section, we will demonstrate how to query a single table.
- Single table queries are useful to gain a view of the data in a table that:
 - only displays certain fields (columns) in the output
 - sorts the records in a particular order
 - performs some statistics on the records such as calculating the sum of data values in a column or counting the number of records

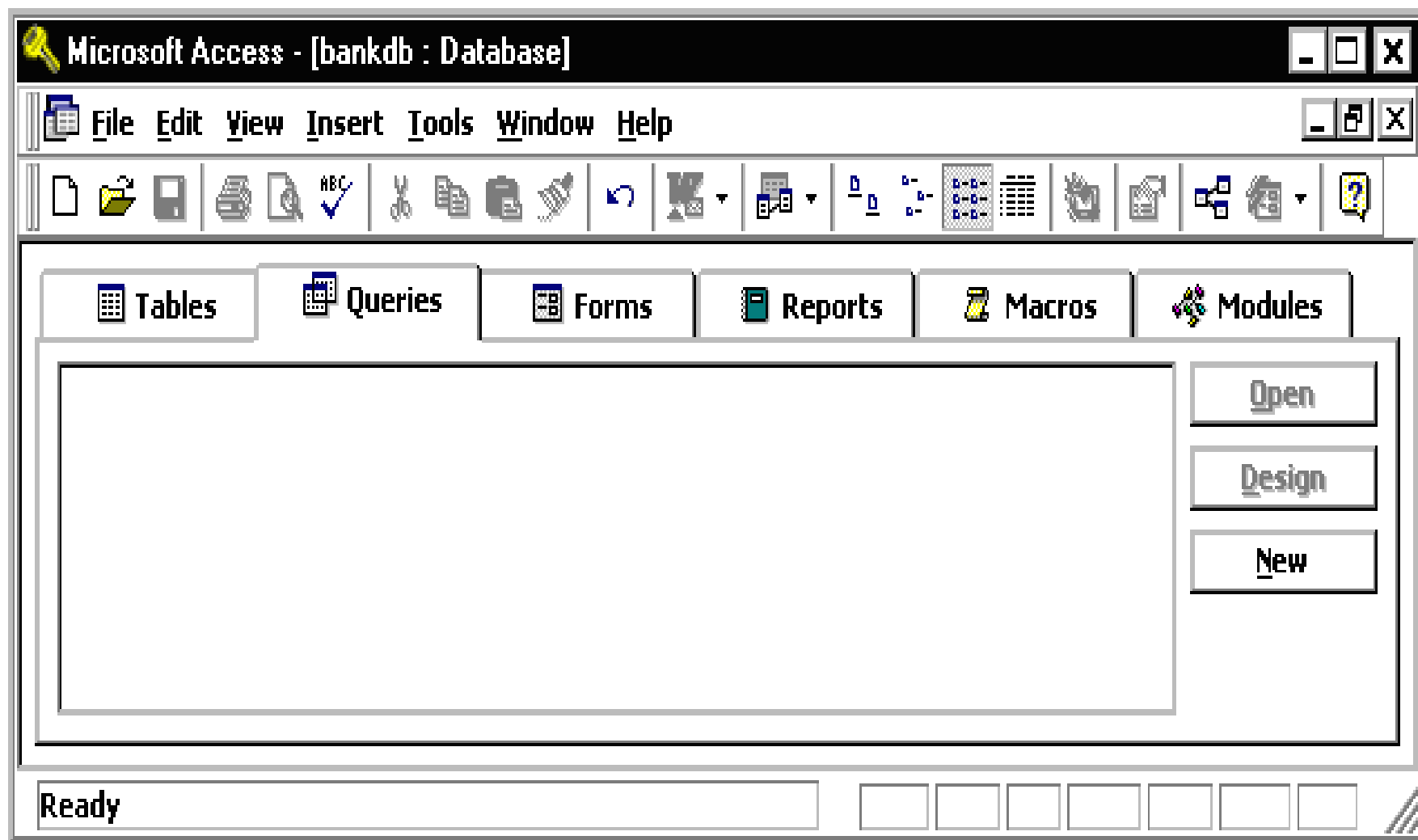


Single Table Queries

- Creating a query can be accomplished by using either the query design view or the Query wizard. In the following example, we will use the query wizard to create a query.
- Queries are accessed by clicking on the **Queries** tab in the Access main screen as shown on the figure in the next slide



Single Table Queries



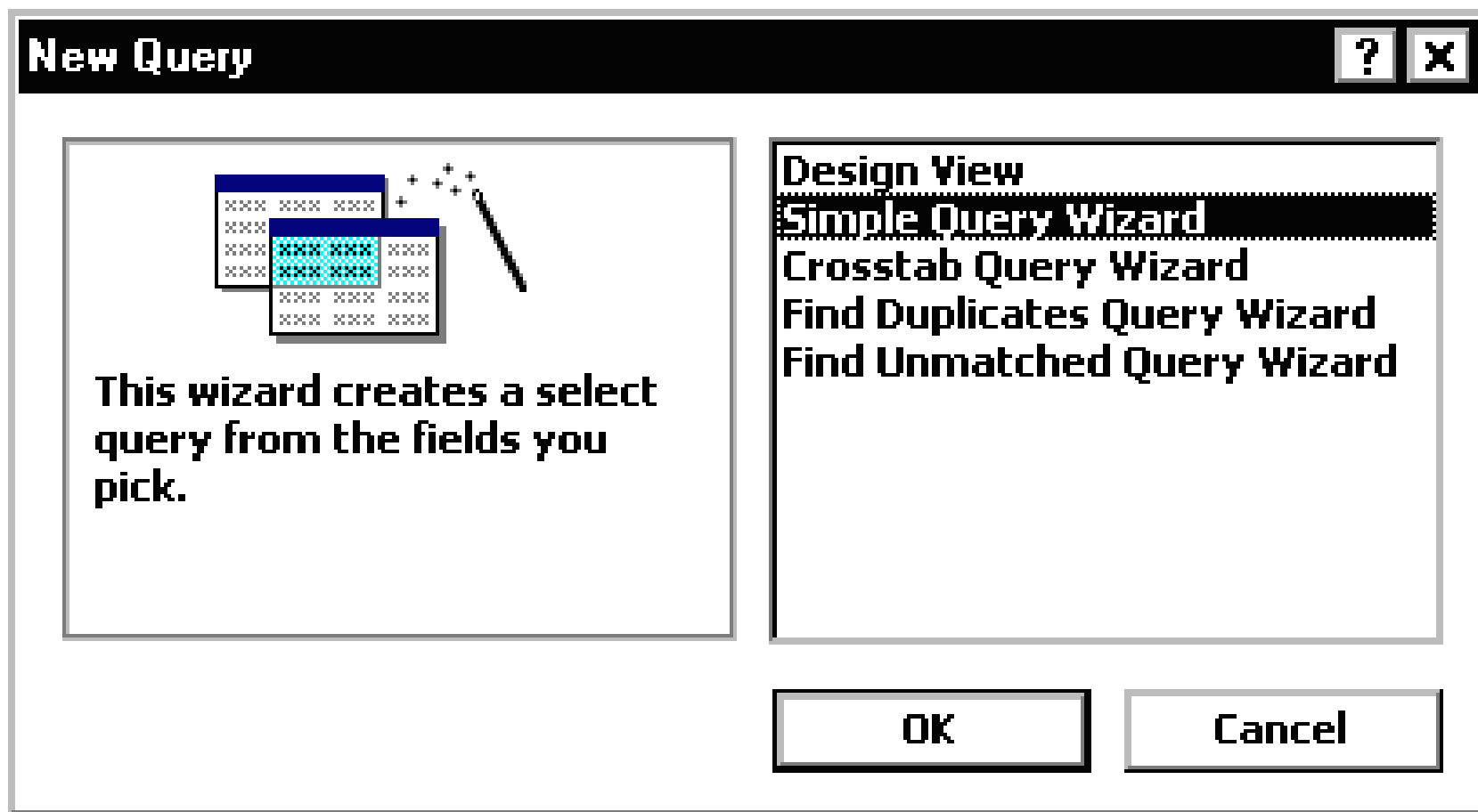


Creating a new query (Using Wizard)

- To create a new query
- Click on the New button. The New Query menu will appear
- Select the Simple Query wizard option
- Click the OK button.



Creating a new query (Using Wizard)





Creating a new query (Using Wizard)

- The first step in the Simple Query wizard is to specify the table for the query and which fields (columns) should be displayed in the query output. Three main sections of this step are:
 - Tables/Queries - Pick a list of tables or queries you have created.
 - Available Fields - Those fields from the table that can be displayed.
 - Selected Fields - Those fields from the table that *will* be displayed.



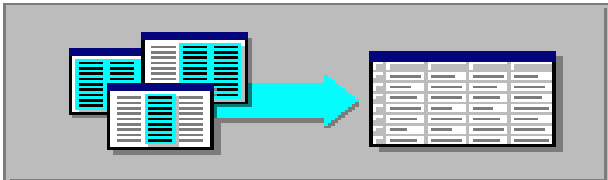
Creating a new query (Using Wizard)

- For this example, pull down the Tables/Queries list and choose the Customer table.
- Notice that the available fields change to list only those fields in the Customer table. This step is shown on the next slide

Creating a new query (Using Wizard)

Simple Query Wizard

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



Tables/Queries:
Table: Customer

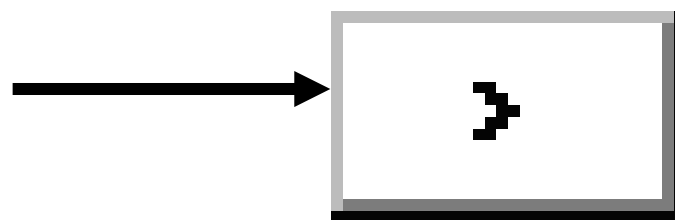
Available Fields:
CustomerID
Name
Address
City
State
Zip

Select Fields:



Creating a new query (Using Wizard)

- From the list of Available fields on the left, move the Name, Address, City and State fields over to the Selected Fields area on the right.
- Highlight one of the fields and then click on the right arrow button in the center between the two areas.
- Repeat this for each of the four fields to be displayed. When done with this step, the wizard should appear as shown in the next slide



Creating a new query (Using Wizard)

Simple Query Wizard

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

Tables/Queries:
Table: Customer

Available Fields:

CustomerID
Zip

Selected Fields:

Name
Address
City
State

Navigation buttons: >, >>, <, <<

Buttons: Cancel, < Back, Next >, Finish

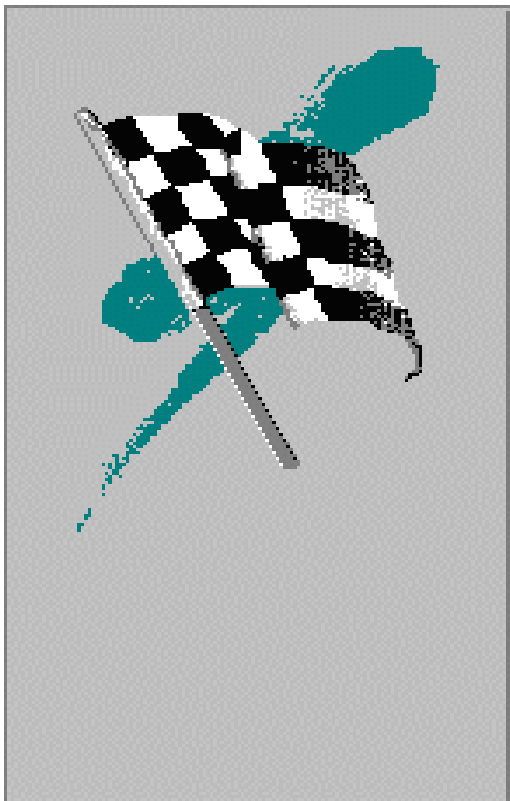


Creating a new query (Using Wizard)

- Click on the Next button to move to the next and final step in the Simple Query wizard.
- In the final step, give your new query a name. For this example, name the query: Customer Address
- At this point, the wizard will create the new query with the option to either:
 - Open the query to view information - that is, the wizard will execute the query and show the data.
 - Modify the query design - the wizard will switch to the Design View to allow further modification of the query

Creating a new query (Using Wizard)

Simple Query Wizard



What title do you want for your query?

CustomerAddress

That's all the information the wizard needs to create your query.

Do you want to open the query or modify the query's design?

☒ Open the query to view information.
☐ Modify the query design.

☐ Display Help on working with the query?

Cancel

< Back

Next >

Finish

Microsoft Access



Creating a new query (Using Wizard)

- For this example, choose Open the query to view information and click on the Finish button.
- When this query executes, only the customer's name, address, city and state fields appear, however, all of the rows appear as shown in the figure (Next slide)

Creating a new query (Using Wizard)

Microsoft Access - [CustomerAddress : Select Query]

File Edit View Insert Format Records Tools Window Help























	Name	Address	City	State
▶	Mr. Smith	123 Lexington	Smithville	KY
	Mrs. Jones	12 Davis Ave.	Smithville	KY
	Mr. Axe	443 Grinder Ln.	Broadville	GA
	Mr. & Mrs. Builder	661 Parker Rd.	Streetville	GA
*				

Record:   1    of 4

The Name of the Customer



Creating a new query (Using Wizard)

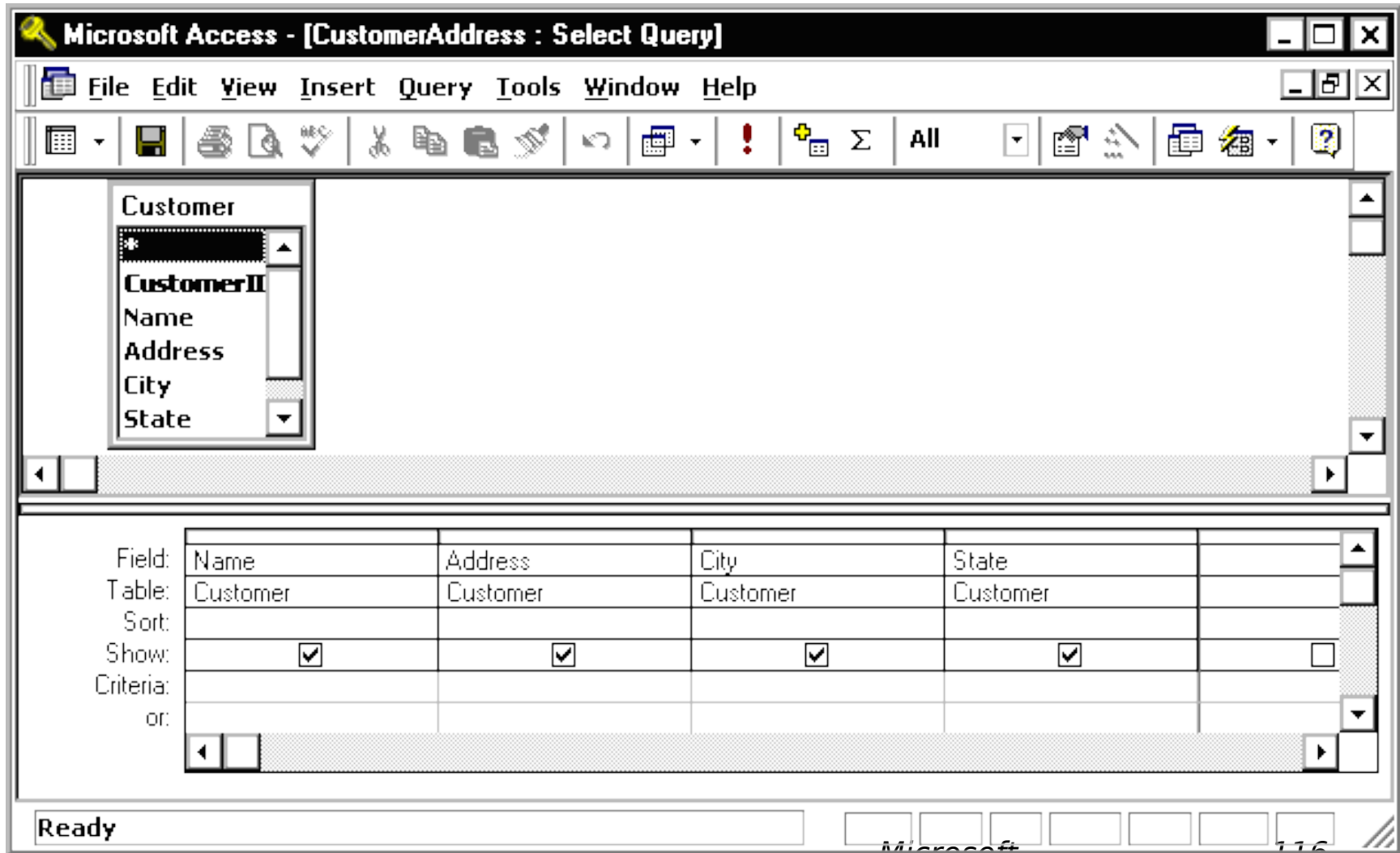
- Close this query by pulling down the File menu and choosing the Close menu item.
- The Access main screen showing the Queries tab should appear. Note the new query CustomerAddress appears under the Queries tab.



Modifying the query

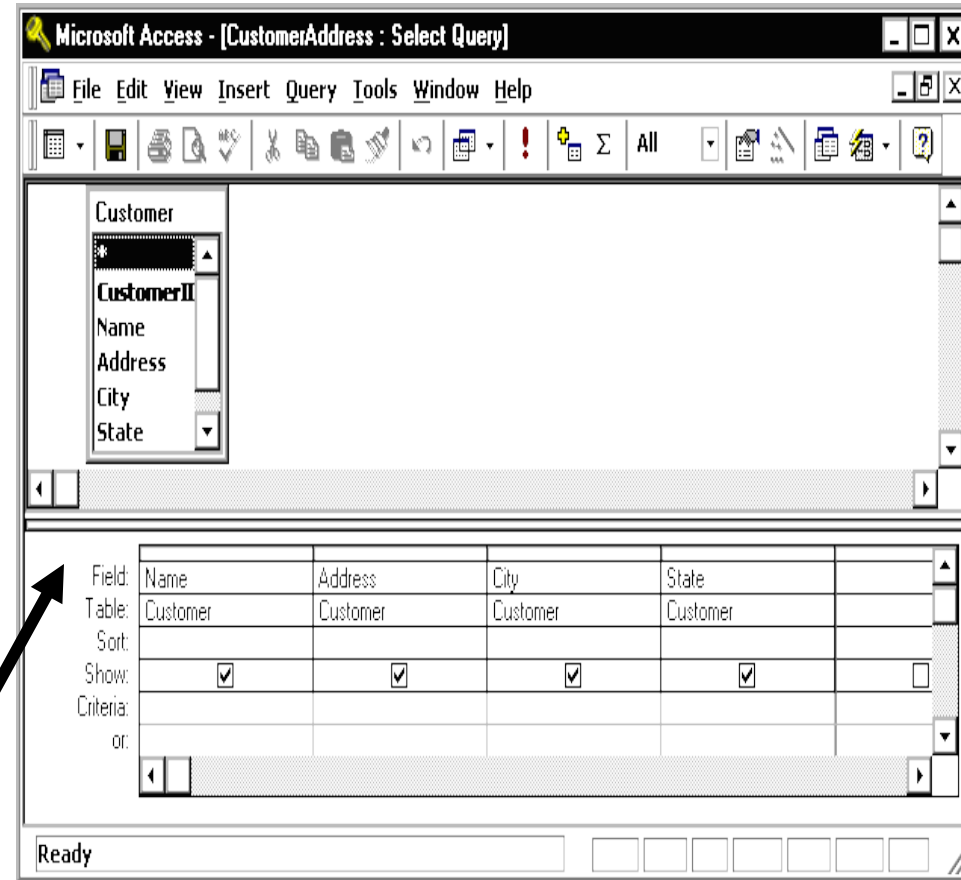
- In the following example, we will modify the CustomerAddress query to only display customers in a certain state. To accomplish this, we will make use of the Query Design View.
- Open up the CustomerAddress query in the design view by highlighting the name of the query and clicking on the Design button. The design view will appear as in the figure below

Modifying the query



Modifying the query

- The Query Design view has two major sections.
- In the top section, the table(s) used for the query are displayed along with the available fields. In the bottom section, those fields that have been selected for use in the query are displayed.





Modifying the query

- Each field has several options associated with it:
 - Field - The name of the field from the table
 - Table - The table the field comes from
 - Sort - The order in which to sort on this field (Ascending, Descending or Not Sorted)
 - Show - Whether or not to display this field in the query output
 - Criteria - Indicates how to filter the records in the query output.



Modifying the query

- For this example, we will filter the records to only display those customers living in the State of Georgia (GA). We will also sort the records on the City field.
- To sort the records on the **City** field, click in the Sort area beneath the **City** field.
- Choose Ascending from the list as shown in the figure below:



Sorting the query

Field:	Name	Address	City	State	
Table:	Customer	Customer	Customer	Customer	
Sort:					
Show:	☒	☒	Ascending	☒	☐
Criteria:			Descending		
or:			(not sorted)		

Ready



- click in the Criteria area beneath the **State** field and type the following statement:
= 'GA'

Field:	Name	Address	City	State	
Table:	Customer	Customer	Customer	Customer	
Sort:			Ascending		
Show:	☒	☒	☒	☒	☐
Criteria:				= 'GA'	
or:					

Ready

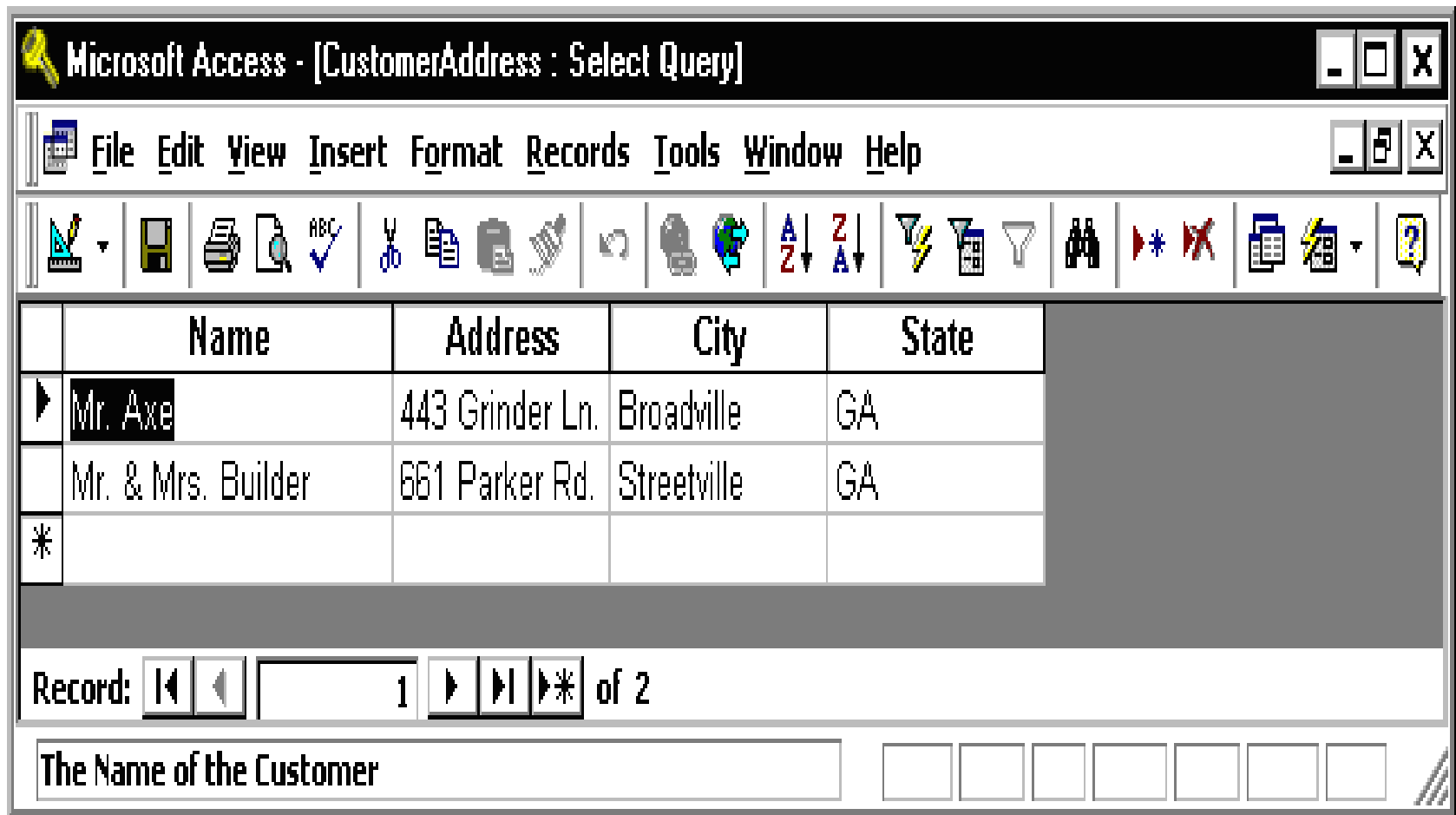


To filter the output to only display Customers in Georgia

- The = 'GA' statement tells Access to only show those records where the value of the **State** field is equal to 'GA'.
- Run the query by
 - clicking the Query menu
 - choose the Run command
 - The output is shown in the figure in the next slide



To filter the output to only display Customers in Georgia



Finally, save and close this query to return to the Access main screen_



Exercise 5: Simple Table Queries

- For this exercise, use the Simple Query wizard to create a query on the Accounts table showing just the AccountNumber, AccountType and Balance fields.
- From the Access main screen, click on the Queries tab. Then click on the New button.
- Choose the Simple Query wizard option and click on the OK button.



Exercise 5: Single Table Queries

- Under Table/Queries: choose the Accounts table. Then move the AccountNumber, AccountType and Balance fields over to the Selected fields area. Then click the Next button.
- In the next panel, you will be asked to choose between a detail or summary query. Choose detailed query and click on the Next button.
- Name the new Query : AccountsQuery and click on the Finish button.

Exercise 5 Cont....

- The output is shown below

Microsoft Access - [AccountsQuery : Select Query]

File Edit View Insert Format Records Tools Window Help

	AccountNumber	AccountType	Balance
▶	1122	Checking	800
	3322	Savings	500
	4422	Checking	6000
	4433	Savings	9000
	8811	Savings	1000
	9980	Savings	2000
	9987	Checking	4000
*	0		0

Record: 1 of 7

The Unique Identifier for a Bank Account

Microsoft Access 126



Exercise 5 Cont....

- Close this query by pulling down the File menu and choose Close.
- In the next part of the exercise, we will modify the query to sort the output on the account number and only display the Savings accounts.
- From the Queries tab on the Access main screen, highlight the AccountsQuery and click on the Design button.
- Change the Sort order for the **AccountNumber** field to Ascending. Add the following statement to the Criteria: are under the **AccountType** field:
= 'Savings'

Exercise 5 Cont....

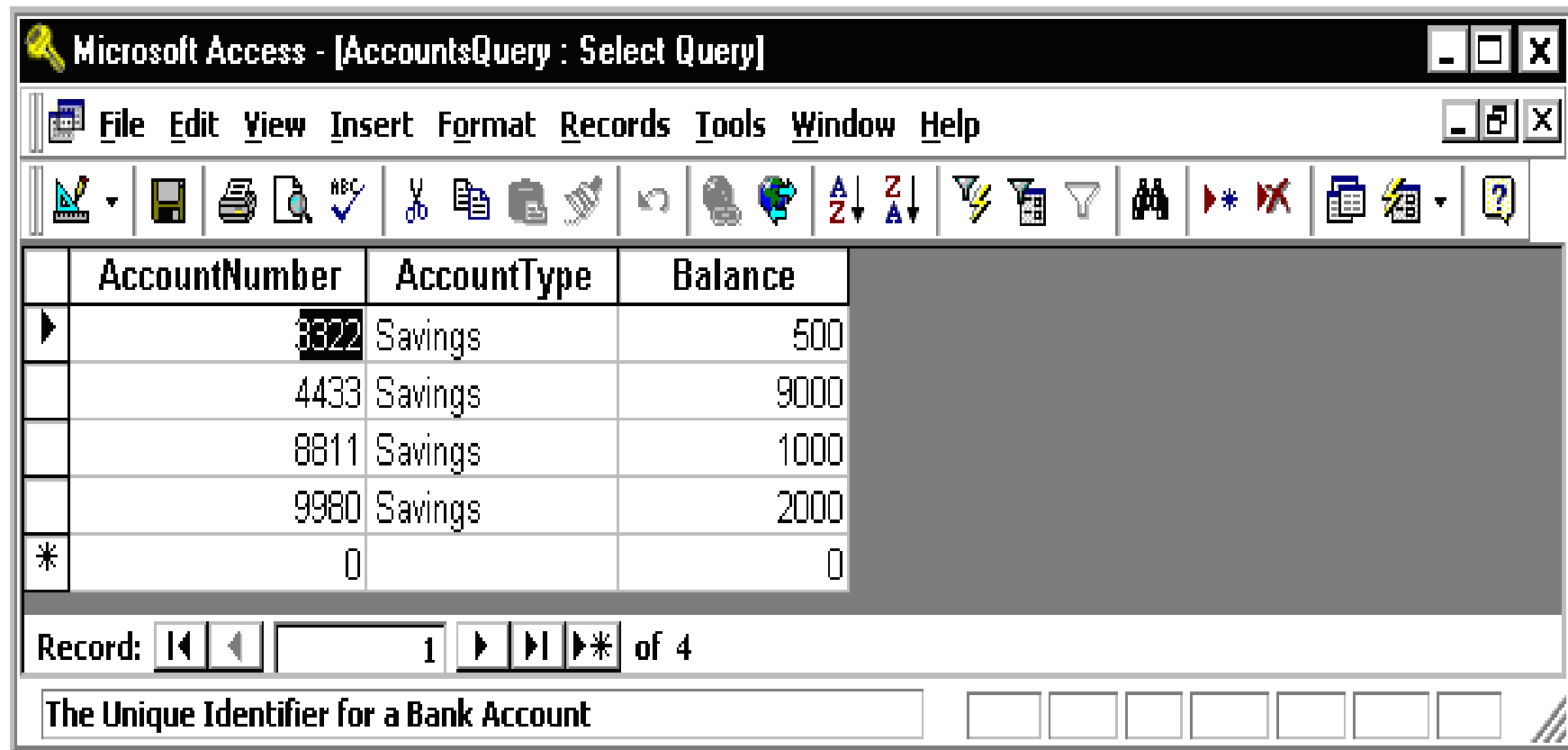
Field:	AccountNumber	AccountType	Balance		
Table:	Accounts	Accounts	Accounts		
Sort:	Ascending				
Show:	☒	☒	☒	☐	☐
Criteria:		= 'Savings'			

Ready

Run the query by clicking the Query menu and choose Run command. The output is shown on the next slide



Exercise 5 Cont....



Finally, save and close the query to return to the Access main screen_



Multiple Table Queries

- Up to this point, queries involving only one table have been demonstrated. It is almost a given that queries will need to involve more than one table.
- For this example, assume that a manager would like to see a list of all of the customers and the type of account(s) that each one maintains at the bank. Such a query requires data from both the Customers table as well as the Accounts table.



Multiple Table Queries

- In such queries, Access will rely on the Relationships established between tables to guide how the data will be assembled to satisfy the query.
- Before proceeding with these next instructions, make certain the One-to-Many relationship between the Customers and Accounts table has been created before



Multiple Table Queries

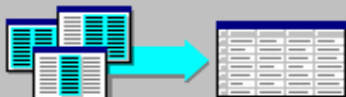
- To start the process of creating a multiple table query
 - Click the Query tab
 - Click on the New button to create a new query.
 - Select the "Simple Query Wizard" option as was done previously.
- When the simple query wizard appears
 - Select the CustomerID and Name fields from the Customers table
 - Then switch the Tables/Queries selection to the Accounts table and select the CustomerID, AccountType and Balance fields from the Accounts table
 - The result from this step is down below

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132

Multiple Table Queries

Simple Query Wizard



Which fields do you want in your query?

You can choose from more than one table or query.

Tables/Queries

Table: Accounts

Available Fields:

AccountNumber
DateOpened

Selected Fields:

Customer.CustomerID
Name
Accounts.CustomerID
AccountType
Balance

>

>>

<

<<

Cancel

< Back

Next >

Finish



Multiple Table Queries

- Click the Next button to continue. In the next step of the wizard, an option will appear to provide some level of Summary.
- For this example, leave the default at "Detail ..." as shown in the next slide and then click on the Next button

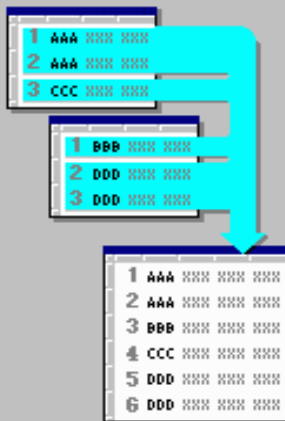
Multiple Table Queries

Simple Query Wizard

Would you like a detail or summary query?

- ☒ Detail (shows every field of every record)
- ☐ Summary

Summary Options ...



1	AAA	xxx	xxx	xxx
2	AAA	xxx	xxx	xxx
3	CCC	xxx	xxx	xxx

1	BBB	xxx	xxx	xxx
2	DDD	xxx	xxx	xxx
3	DDD	xxx	xxx	xxx

1	AAA	xxx	xxx	xxx
2	AAA	xxx	xxx	xxx
3	BBB	xxx	xxx	xxx
4	CCC	xxx	xxx	xxx
5	DDD	xxx	xxx	xxx
6	DDD	xxx	xxx	xxx

Cancel

< Back

Next >

Finish

Access



Multiple Table Queries

- In the final step of the wizard, name the query "Customer Accounts Query"
- Click on the Finish button. The multiple table query results should appear as in the next slide



Multiple Table Queries

Microsoft Access - [Customer Accounts Query : Select Query]

File Edit View Insert Format Records Tools Window Help

	Customer_Custome	Name	Accounts_Cus	AccountType	Balance
▶	1001	Mr. Smith	1001	Savings	2000
	1001	Mr. Smith	1001	Checking	4000
	1002	Mrs. Jones	1002	Savings	1000
	1003	Mr. Axe	1003	Checking	6000
	1003	Mr. Axe	1003	Savings	9000
	1004	Mr. & Mrs. Builder	1004	Checking	800
	1004	Mr. & Mrs. Builder	1004	Savings	500
*					

Record: 1 of 7

The Unique Identifier for a Customer



Multiple Table Queries

- As with single table queries demonstrated previously, one can change the query definition in design view by adding filters (e.g., show account information for all customers in 'GA').



Exercise 6: Multiple Table Queries

- For this exercise, create a new query called "Accounts Summary Query" that joins the Customers table (include the CustomerID and Name fields) with the Accounts table (include the Balance field only).
- In the second step of the wizard, click on the Summary choice (instead of Details) and then click on the Summary Options... button. Check all of the Summary option boxes such as **Sum**, **AVG**, **Min** and **Max** as shown in the figure in the next slide



Exercise 6 Cont....

Summary Options

What summary values would you like calculated?

Field	Sum	Avg	Min	Max
Balance	☒	☒	☒	☒

☒ Count records in Accounts

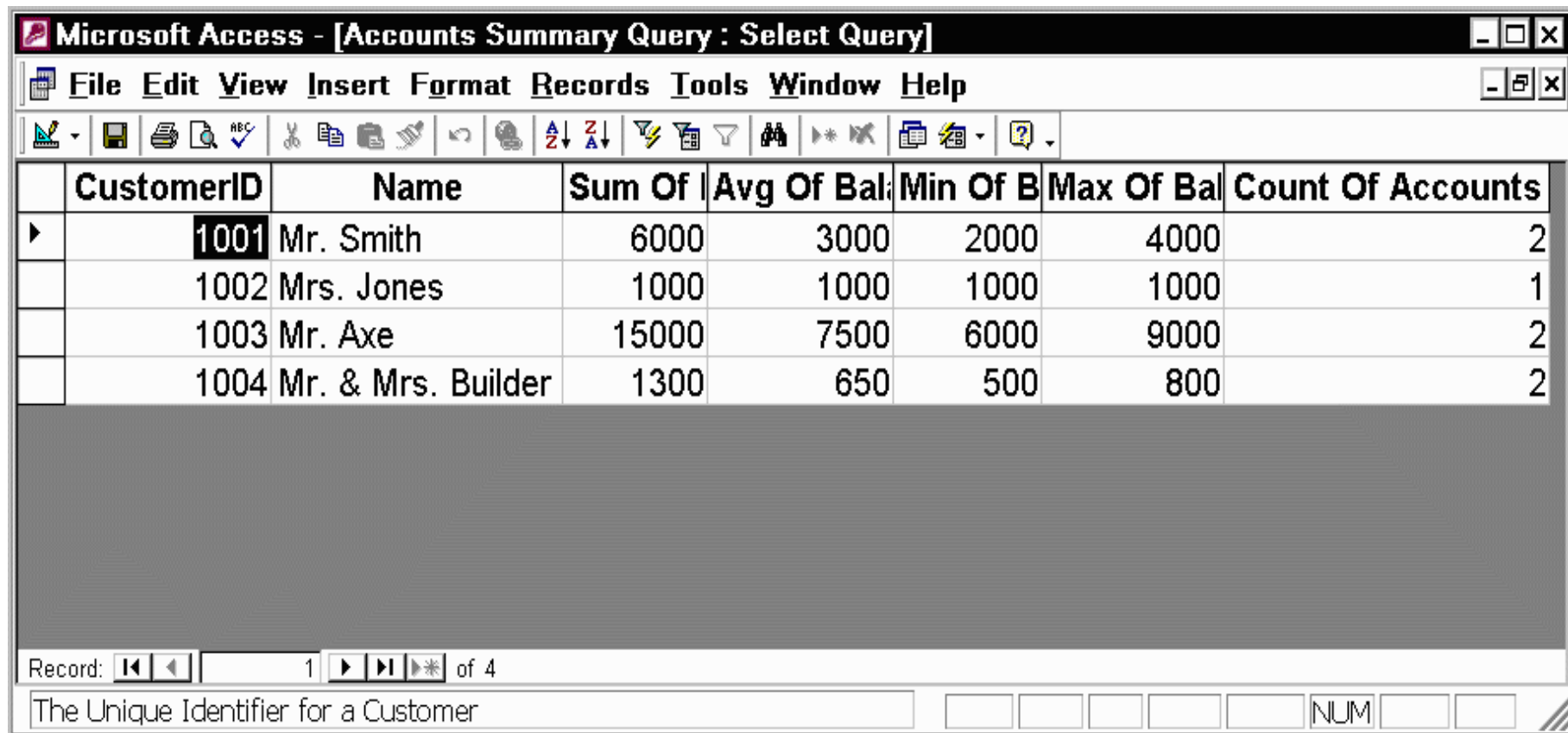
OK

Cancel



Exercise 6 Cont....

- The resulting query should appear as follows



Microsoft Access - [Accounts Summary Query : Select Query]

File Edit View Insert Format Records Tools Window Help

	CustomerID	Name	Sum Of	Avg Of Bal	Min Of B	Max Of Bal	Count Of Accounts
▶	1001	Mr. Smith	6000	3000	2000	4000	2
	1002	Mrs. Jones	1000	1000	1000	1000	1
	1003	Mr. Axe	15000	7500	6000	9000	2
	1004	Mr. & Mrs. Builder	1300	650	500	800	2

Record: 1 of 4

The Unique Identifier for a Customer



Creating and Running Queries

- In this section, the basic steps for creating and running queries were introduced.
- The query wizard can be used to create simple queries that access a single table.
- It is also possible to then modify the query to sort or filter the records.



Summary Creating and Running Queries

- Creating a query using the query wizard:
 - From the Access main screen, click on the Queries tab. Then click on the New button.
 - From the Queries tab on the main Access screen, click on the New button and choose the Simple Query wizard option.
 - Under Table/Queries: choose the appropriate table for the query and then indicate which fields in the table will appear in the query output.
 - If querying more than one table, change the Table/Queries: selection to display additional tables and select the necessary fields.
 - If the table contains numeric fields, either detailed or summary information may be specified for the query.
 - Finally, name the new query and click on the Finish button.



FORMS

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144

Creating and Running a Data Entry Form



- Data entry forms are the primary means of entering data into tables in the database. In a previous section, we described how to add data to a table using a spreadsheet-like view of the data. Data entry forms offer a more user-friendly interface by adding labels for each field and other helpful information.
- Access provides several different ways of creating data entry forms. These include creating the forms by hand using a Design View as well as a number of wizards that walk the user through the forms creation process. In this section, we cover the basic steps for using a wizard to create a data entry form.



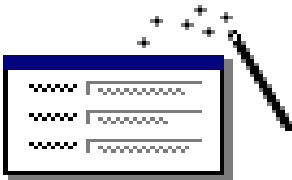
Creating a Single Table Form using the Wizard

- **In this example, we will create a simple data entry form for the Customer table. To begin the process, click on the Forms tab on the Access main screen. As with the other components in Access, there are buttons for creating a New form, Open an existing form and Design an existing form. For this example, click on the New button to create a new form.**
- **A New Form dialog box will appear with several options for creating a new form. For this tutorial, choose the Form wizard. At the bottom of the dialog box, there is a prompt to supply the name of the table or query to be used for the new form. In this case, select the Customer table as in the following figure and then click on the OK button**



Creating a Single Table Form using the Wizard

New Form [?] [X]



This wizard automatically creates your form, based on the fields you select.

Design View

Form Wizard

- AutoForm: Columnar
- AutoForm: Tabular
- AutoForm: Datasheet
- Chart Wizard
- PivotTable Wizard

Choose the table or query where the object's data comes from:

Customer [v]

OK Cancel

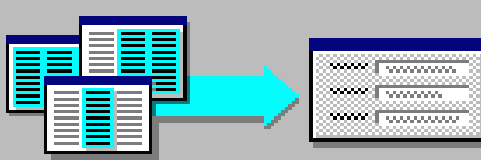


Creating a Single Table Form using the Wizard

- In the next step of the Form wizard, we need to specify the fields from the Customer table that will appear on the form.
- In this case, we want all of the fields to appear.
- Move each of the fields from the Available Fields side over to the Selected Fields side as in the following figure.
- Then click on the Next button

Creating a Single Table Form using the Wizard

Form Wizard



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

Tables/Queries:

Table: Customer

Available Fields:

>

>>

<

<<

Selected Fields:

CustomerID
Name
Address
City
State
Zip

Cancel

< Back

Next >

Finish

Microsoft Access



Creating a Single Table Form using the Wizard

- Forms can have several different layouts or arrangement of the labels and fields on the screen.
 - **Columnar - Places the labels to the left of each field. This is similar to a paper form. This layout is suitable for viewing data one record at a time.**
 - **Tabular - Places the field labels at the top of the screen and the records are displayed below. This is similar to how a spreadsheet would display the data and is suitable for displaying multiple records of data at a time.**



Creating a Single Table Form using the Wizard

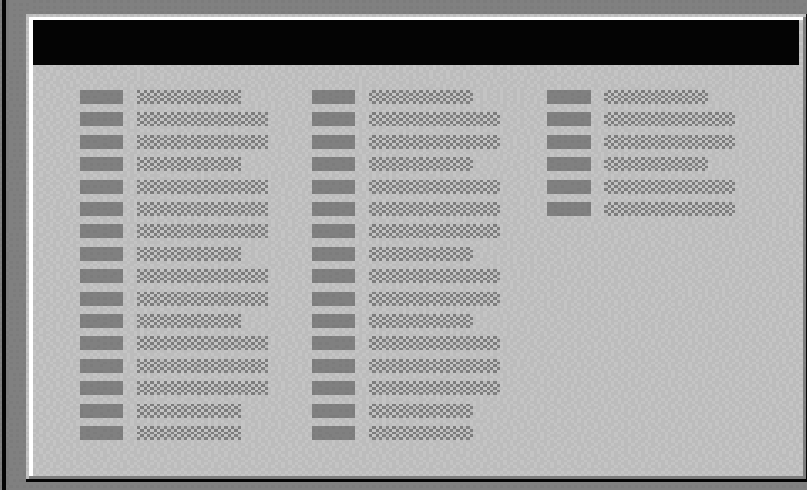
- **Datasheet** - The data appears in the same fashion as when viewing or adding data to a table.
- **Justified** - Places the labels above each field with the fields spread out on the form. This is suitable for viewing a single record at a time as with the columnar layout.
- For this example, choose the columnar layout as shown in the figure below and click on the Next button.



Creating a Single Table Form using the Wizard

Form Wizard

What layout would you like for your form?



The preview shows a form with a header section and three columns of data. Each column contains a series of text boxes, with the first column having a label box above each data box.

☒ Columnar

☐ Tabular

☐ Datasheet

☐ Justified

Cancel < Back Next > Finish



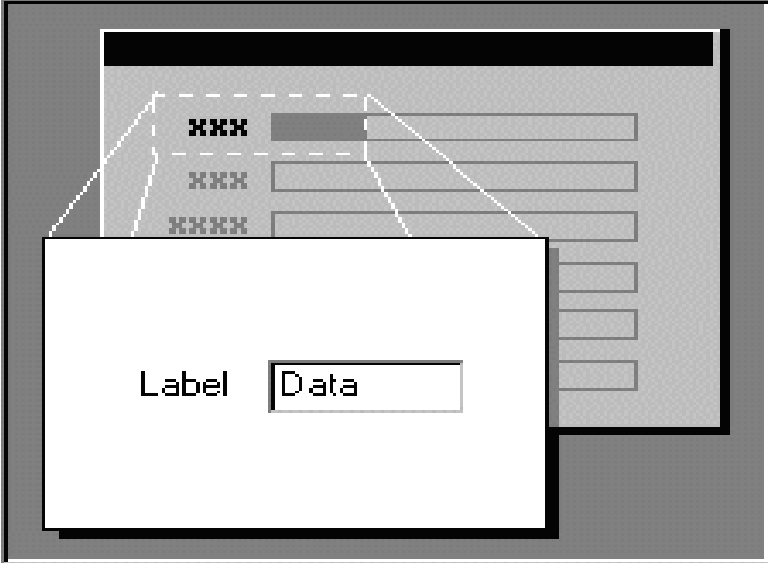
Creating a Single Table Form using the Wizard

- Access has several sample display styles that determine how the form will appear, including elements such as fonts, colors and the background used in the form.
- For this example, select the Standard style as shown in the next slide and click on the Next button

Creating a Single Table Form using the Wizard

Form Wizard

What style would you like?



- Clouds
- Colorful 1
- Colorful 2
- Dusk
- Evergreen
- Flax
- International
- Pattern
- Standard**
- Stone

Cancel
< Back
Next >
Finish

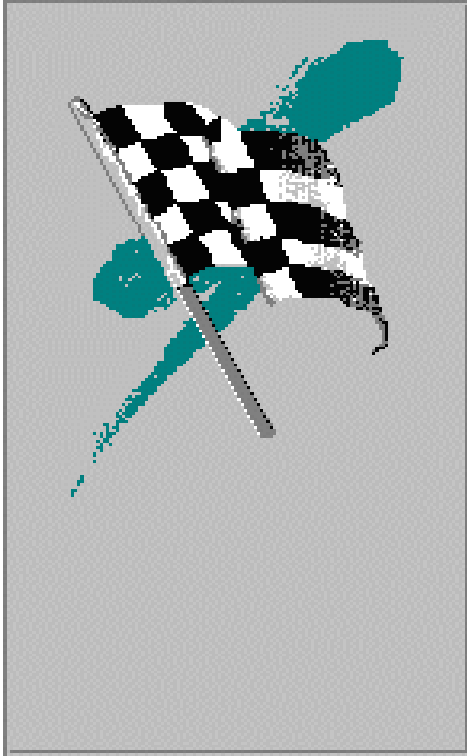


Creating a Single Table Form using the Wizard

- As a final step, give this new form the name:
 - CustomerDataEntry
- Then click on the Finish button as shown in the next slide

Creating a Single Table Form using the Wizard

Form Wizard



What title do you want for your form?

CustomerDataEntry

That's all the information the wizard needs to create your form.

Do you want to open the form or modify the form's design?

☒ Open the form to view or enter information.

☐ Modify the form's design.

☐ Display Help on working with the form?

Cancel < Back Next > Finish

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Access

156



Creating a Single Table Form using the Wizard

- The new form will be created by the wizard and then opened. It should appear as in the figure below

The screenshot shows the Microsoft Access application window titled "Microsoft Access - [CustomerDataEntry]". The menu bar includes File, Edit, View, Insert, Format, Records, Tools, Window, and Help. The toolbar contains various icons for file operations, editing, and navigation. The main form area displays a data entry form with the following fields and values:

CustomerID	1001
Name	Mr. Smith
Address	123 Lexington
City	Smithville
State	KY
Zip	91232

At the bottom of the form, the status bar indicates "Record: 1 of 4" and "The Unique Identifier for a Customer".

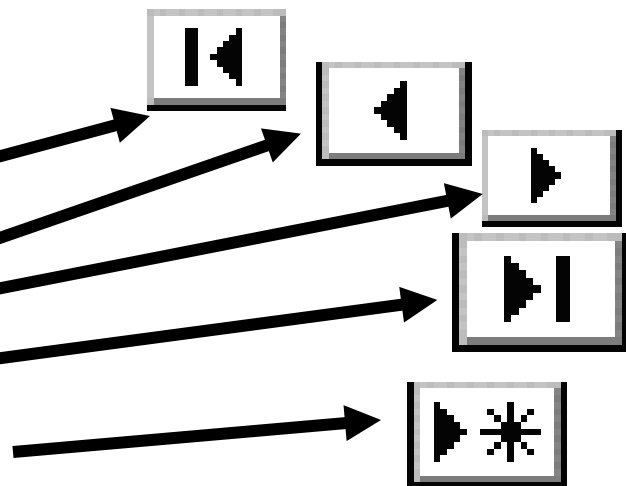
Navigation between fields/records

- Use the tab key to navigate between fields in the form.
- To move to the next or previous record, use the record navigation bar at the bottom of the form



Navigate between records

- The buttons on the navigation bar perform the following functions:
- Go to the first record.
Go to the previous record.
Go to the next record.
Go to the last record.
Go past the last record to add a new record.
- To close the form and return to the Access main screen, pull down the File menu and choose Close.
- To open the form at any time, highlight the form name under the Forms tab on the Access main screen and click on the Open button





Close/Open the Form

- To close the form and return to the Access main screen
 - Click the File menu
 - Choose Close.
- To open the form at any time
 - Highlight the form name under the Forms tab on the Access main screen
 - Click on the Open button



Exercise 7: Creating a Single Table Form

- For this exercise, we will create a data entry form for the Accounts table created in a previous exercise.
 - Click on the Forms tab on the Access main screen and then click on the New button to create a new form.
 - Select the Form wizard
 - Select the Accounts table.
 - Click the OK button.
 - Select all of the available fields and click on the Next button.



Exercise 7 Cont.....

- Choose a Tabular layout and click on the Next button.
- Choose the Standard style and click on the Next button.
- Name the form: AccountsDataEntry
Then click on the Finish button to create, save and view the new form.
- The new form is shown in the next slide



Exercise 7 Cont.....

Microsoft Access - [AccountsDataEntry]

File Edit View Insert Format Records Tools Window Help

CustomerID	AccountNumber	AccountType	DateOpened	Balance
1004	1122	Checking	11/13/88	800
1004	3322	Savings	8/22/94	500
1003	4422	Checking	12/1/94	6000
1003	4433	Savings	12/1/94	9000
1002	8811	Savings	1/5/92	1000
1001	9980	Savings	10/12/89	2000
1001	9987	Checking	10/12/89	4000
*	0	0		0

Record: 1 of 7

The Unique identifier for a customer

Close the form and return to the Access main screen, by pulling down the File menu and choosing Close.

Microsoft
Access

163



Review of Creating a Form

- The basic steps for creating a simple data entry form are:
- Choose a table and a form wizard
- Specify the fields (columns) that will appear in the form
- Specify the layout for the form
- Specify the style (fonts/colors, etc.) for the form
- Save, create and run the new form



Review of Creating a Form

- In this section we covered the basic steps required to create and run a data entry form.
- Access provides wizards which are adept at building simple forms with a minimal amount of work.



REPORT



Report

- Reports are similar to queries in that they retrieve data from one or more tables and display the records.
- Unlike queries, however, reports add formatting to the output including fonts, colors, backgrounds and other features. Reports are often printed out on paper rather than just viewed on the screen.
- In this section, we cover how to create simple reports using the Report wizard.



Creating a Report

- In this example, we will create a simple report for a single table using the Report wizard.
- As with the Queries and Forms, we begin by selecting the Reports tab from the Access main screen.



- To create a new report
 - Click on the New button.
 - The New Report dialog box will appear as shown below.
 - Select the Report wizard and then select the Customer table as shown on the next slide.
 - Then click the OK button.



Creating a Report

New Report [?] [X]



This wizard automatically creates your report, based on the fields you select.

Design View

Report Wizard

AutoReport: Columnar

AutoReport: Tabular

Chart Wizard

Label Wizard

Choose the table or query where the object's data comes from:

Customer [v]

OK Cancel



Creating a Report

- In the next step of the Report wizard, we need to specify the fields from the Customer table that will appear on the report.
- In this case, we want all of the fields to appear.
- Move each of the fields from the Available Fields side over to the Selected Fields side as in the figure in the next slide.
- Then click on the Next button.

Creating a Report

Report Wizard

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

Tables/Queries:
Table: Customer

Available Fields:

Selected Fields:

CustomerID
Name
Address
City
State
Zip

Cancel < Back Next > Finish



Creating a Report

- In the next step, we have the opportunity to add *Grouping Levels* to the report.
- A grouping level is where several records have the same value for a given field and we only display the value for the first records.
- In this case, we will not use any grouping levels so simply click on the Next button as shown in the next slide.



Creating a Report

Report Wizard

Do you want to add any grouping levels?

CustomerID	>
Name	<
Address	
City	
State	
Zip	

Priority

CustomerID, Name, Address, City, State, Zip

Grouping Options ... Cancel < Back Next > Finish

Microsoft
Access



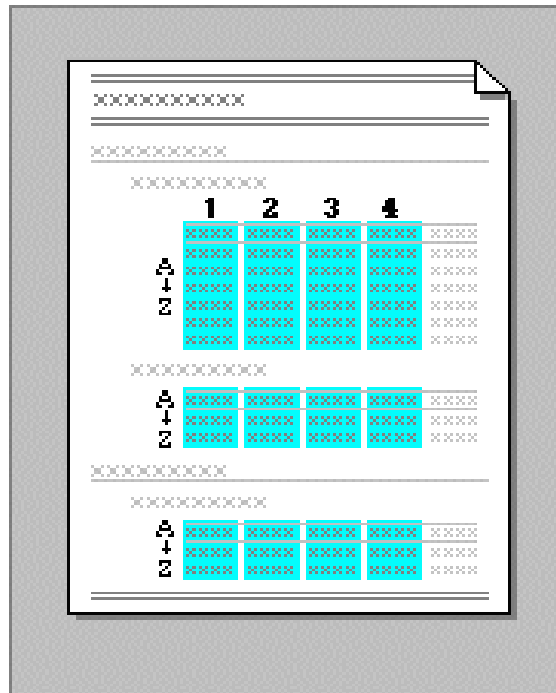
Creating a Report

- In the next step, we are given the opportunity to specify the sorting order of the report.
- For this example, we will sort the records on the CustomerID field.
- To achieve this,
- Click the down arrow in the list box next to the number 1 box
- Choose the CustomerID field as shown in the figure next slide.
- Then click on the Next button.

Creating a Report

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 CustomerID [Sort Order: A-Z]

2 [Sort Order: A-Z]

3 [Sort Order: A-Z]

4 [Sort Order: A-Z]

Cancel

< Back

Next >

Finish

Microsoft
Access



Creating a Report

- The next step is to specify the layout of the report. The three options are:
 - Columnar - Places the labels to the left of each field. This is similar to a paper form.
 - Tabular - Places the field labels at the top of the report page and the records are displayed below. This is similar to how a spreadsheet would display the data.



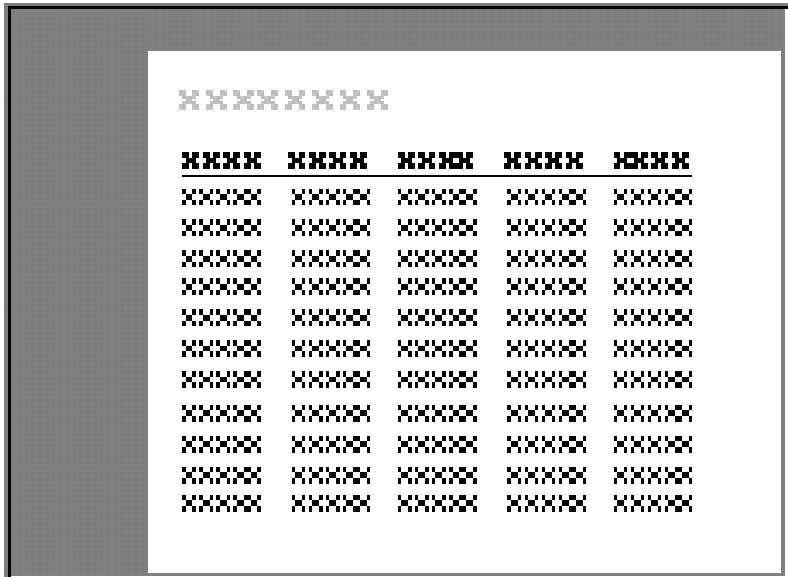
Creating a Report

- Justified - Places the labels above each field with the fields spread out on the report page.
- Generally, reports use the tabular layout.
- For this example
 - Choose Tabular layout and set the page Orientation to Landscape so that all of the fields will fit across one page.
- This is shown in the figure next slide.
- Click on the Next button to continue.

Creating a Report

Report Wizard

How would you like to lay out your report?



Layout

☐ Columnar

☒ Tabular

☐ Justified

Orientation

☐ Portrait

☒ Landscape



☒ Adjust the field width so all fields fit on a page.

Cancel
< Back
Next >
Finish

Microsoft
Access

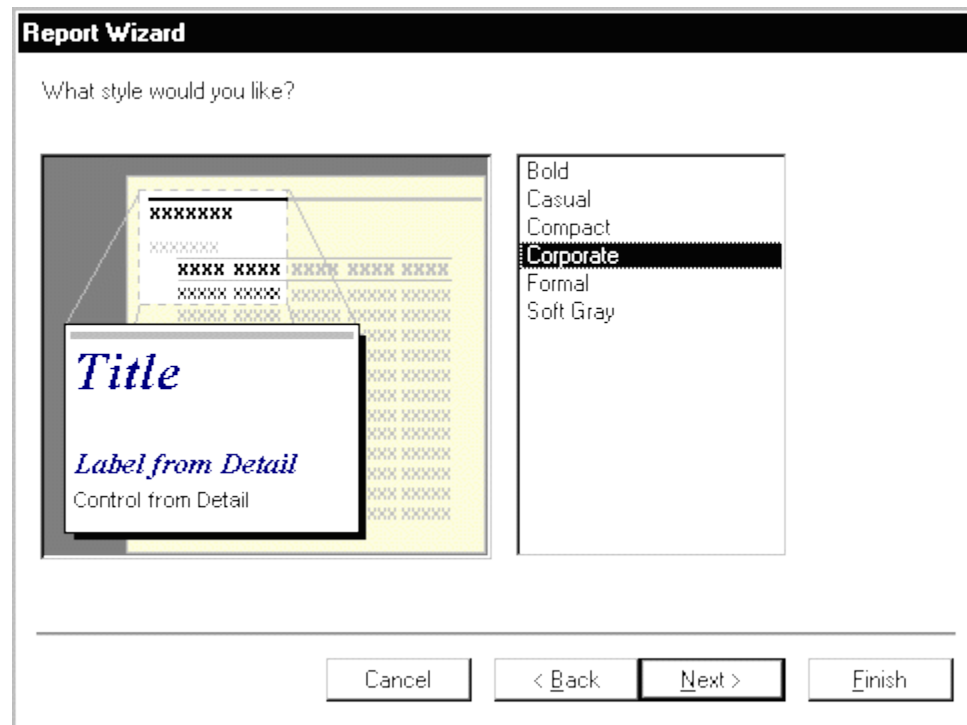


Creating a Report

- In the next step, the style of the report can be selected.
- For this example
- Choose the Corporate style
- Click on the Next button to continue.



Creating a Report





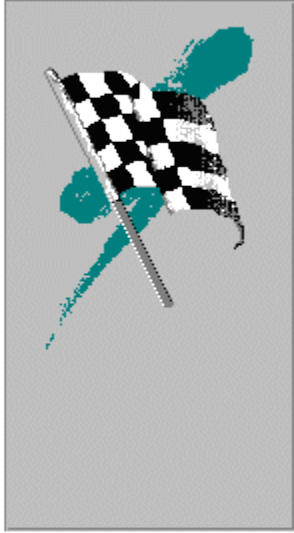
Creating a Report

- Finally, give a name for the new report: CustomerReport and then click on the Finish button to create, save and display the new report.



Creating a Report

Report Wizard



What title do you want for your report?

CustomerReport

That's all the information the wizard needs to create your report.

Do you want to preview the report or modify the report's design?

☒ Preview the report.

☐ Modify the report's design.

☐ Display Help on working with the report?

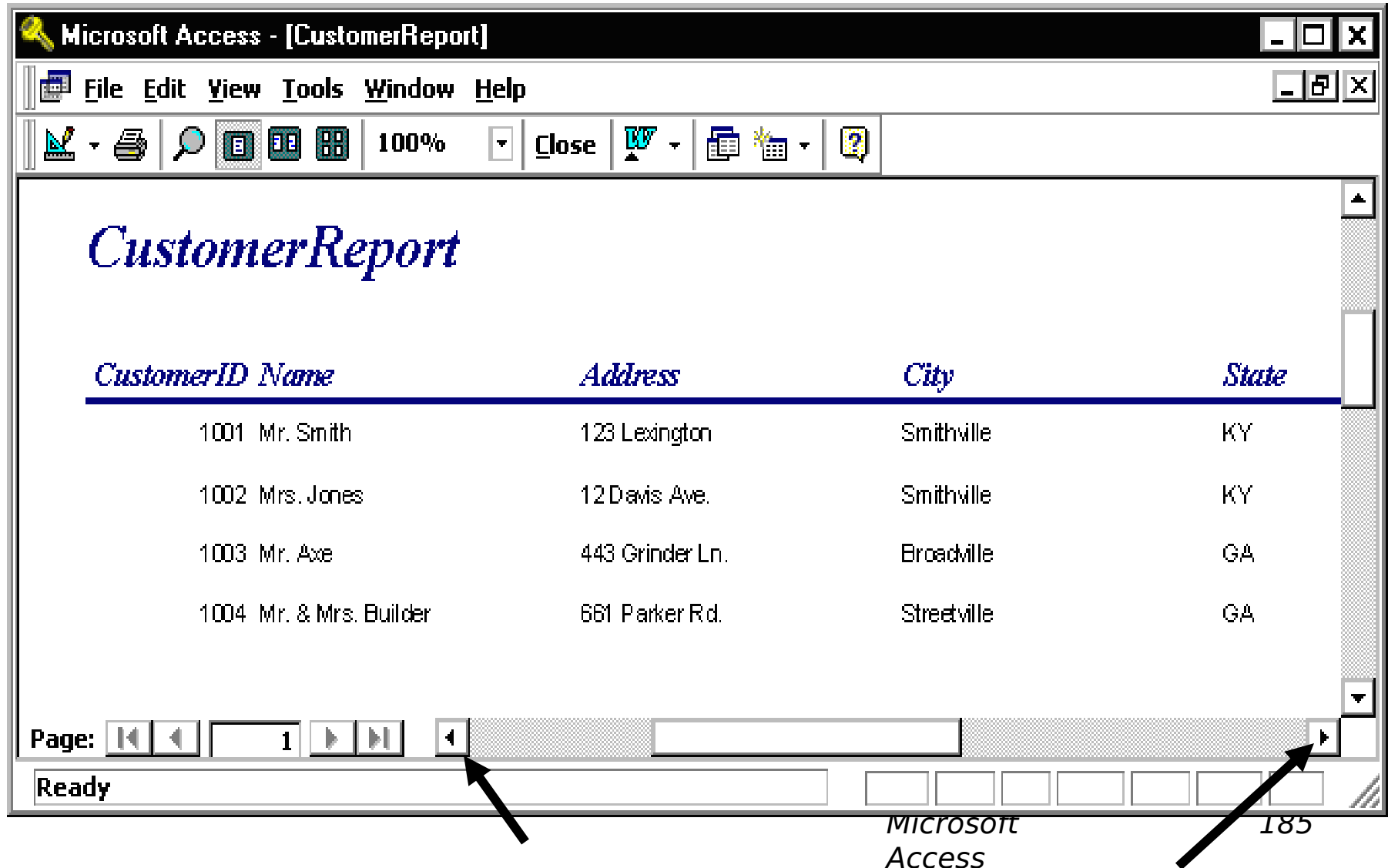
Cancel < Back Next > Finish



Creating a Report

- The output from the report is shown in the figure next slide.
- Note that on some screens, the last field, Zip, may not display without scrolling over to the right.

Creating a Report





Creating a Report

- Once the report is displayed, it can be viewed, printed or transferred into Microsoft Word or Microsoft Excel.



Creating a Report

- To close the report and return to the Access main screen, pull down the File menu and choose Close or click on the Close button.



Report

- For this exercise, we will create a report showing all of the Accounts information.
- 1. From the Reports tab on the Access main screen, click on the New button.
- 2. Select the Report wizard, select the Accounts table and then click the OK button.
- 3. Select all of the fields in the Accounts table by moving them all over to the Selected Fields side and then click Next
- 4. Group the report by CustomerID by clicking on the CustomerID field and then clicking on the right arrow button. This is shown in the figure in the next slide



Exercise 8 Cont.....

Report Wizard

Do you want to add any grouping levels?

AccountNumber
AccountType
DateOpened
Balance

>
<
Priority
↓

CustomerID
AccountNumber, AccountType,
DateOpened, Balance

Grouping Options ... Cancel < Back Next > Finish

Choose to sort the report on the AccountNumber field. Note that a new button will appear called Summary Options.

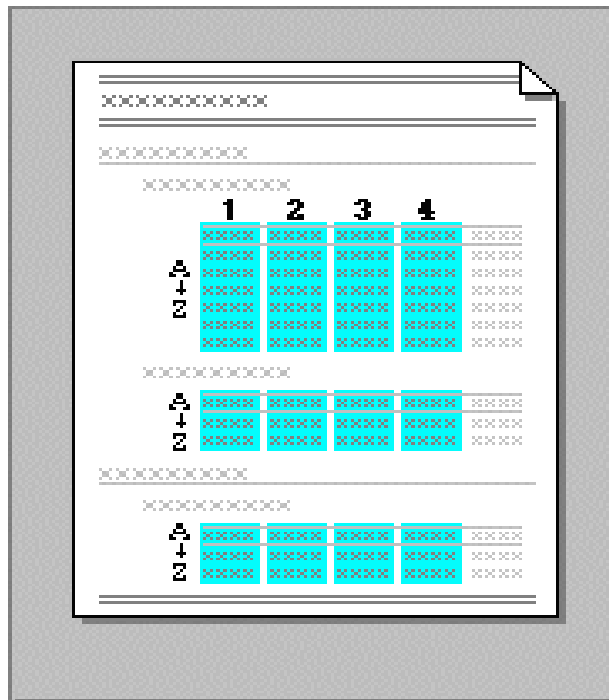
Microsoft
Access

189

Exercise 8 Cont.....

Report Wizard

What sort order and summary information do you want for detail records?



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

- 1 AccountNumber  
- 2  
- 3  
- 4  

Summary Options...

Cancel

< Back

Next >

Finish



Exercise 8 Cont.....

- Click on the Summary Options button.
- Choose the Balance field and select the Sum option.
- Choose the option to show both Detail and Summary data.
- Then click on the OK button.

Exercise 8 Cont.....

Summary Options

What summary values would you like calculated?

Field	Sum	Avg	Min	Max
Balance	☒	☐	☐	☐

OK

Cancel

Show

☒ Detail and Summary

☐ Summary Only

☐ Calculate percent of total for sums

Click on the Next button.



Exercise 8 Cont.....

- 1. Choose a Block layout and click on the Next button.
- 2. Choose the Corporate style and the click on the Next button.
- 3. Finally, name the report: AccountsReport and click on the Finish button to create, save and run the report.
- The output from the AccountsReport is shown in the next slide

Exercise 8 Cont.....

Microsoft Access - [AccountsReport]

File Edit View Tools Window Help

100% Close

AccountsReport

CustomerID	AccountNumber	AccountType	DateOpened	Balance
1001	9980	Savings	10/12/89	2000
	9987	Checking	10/12/89	4000
Summary for 'CustomerID' = 1001 (2 detail records)				
Sum				6000
1002	8811	Savings	1/5/92	1000
Summary for 'CustomerID' = 1002 (1 detail record)				
Sum				1000
1003	4422	Checking	12/1/94	6000
	4433	Savings	12/1/94	9000
Summary for 'CustomerID' = 1003 (2 detail records)				
Sum				15000
1004	1122	Checking	11/13/88	800
	3322	Savings	8/22/94	500
Summary for 'CustomerID' = 1004 (2 detail records)				
Sum				1300
Grand Total				23300

Page: 1

Ready



Exercise 8 Cont.....

- Note the Grouping at the level of the CustomerID and the Sum for each customer's balances.
- To close the report and return to the Access main screen, pull down the File menu and choose Close.



- As can be seen in the report exercise, there are many ways to create reports to show summarization, sorting and layout of the data.
- Further study of Reports will show how to modify the layout using the Design View. Students are encouraged to work with the Report wizards to create different styles and types of reports.



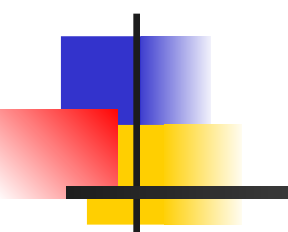
Summary

- In this Lesson, we have covered the basics for creating an Access database including tables with data, queries to retrieve data, forms to enter data and reports to display and summarize data.
- Students are encouraged to further their Access knowledge and skills by working through more advanced Lessons and by reading the on-line help and Access documentation



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