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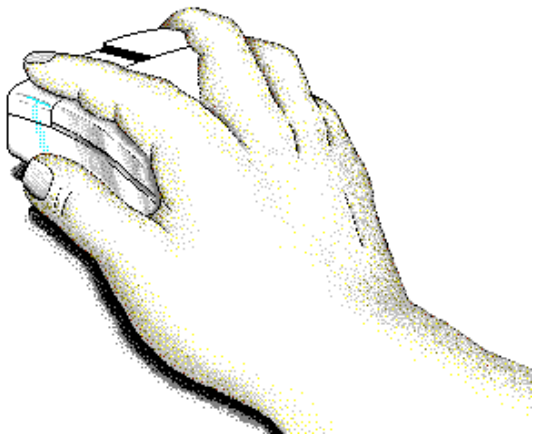
# MS Access XP

**(version 2002)**

# Workbook



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# Contents

# Introduction

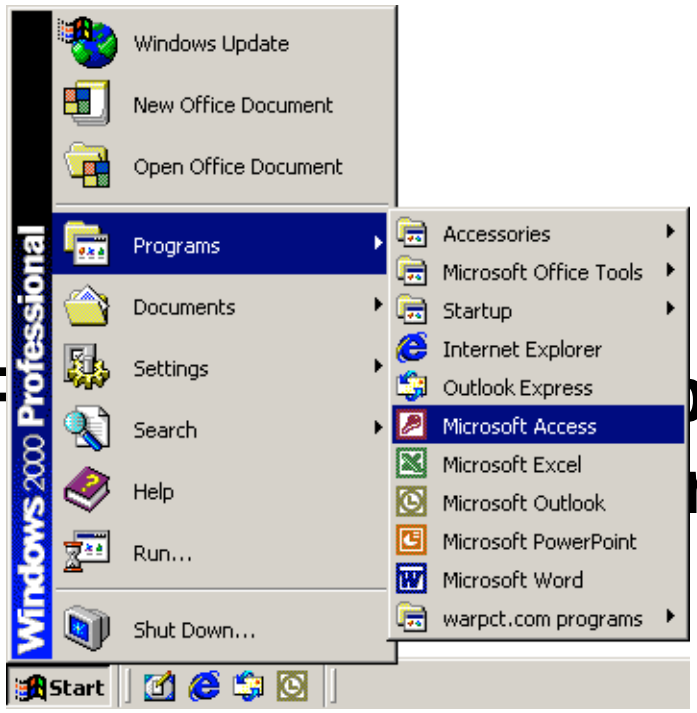
Welcome to the WARP! Computer Training MS-Access XP (version 2002) workbook.

MS-Access XP 2002 is a powerful Database application program for Windows 98 or later, and Windows NT with Service Pack 6 or later. It is part of Microsoft's popular professional integrated software suite: Microsoft Office XP 2002.

**Database Programs** are tools which allow you to store and manipulate information. This course gives step-by-step instruction on the basic features of MS-Access XP 2002. By the end of this course you will be equipped with all of the skills necessary to use MS-Access XP 2002 to generate simple and effective relational databases. With these skills, and a bit of practice, you will be well on your way to becoming an Access XP 2002 expert.

# Creating a Database 1

**Exercise**
*Starting Access*




**Getting started**

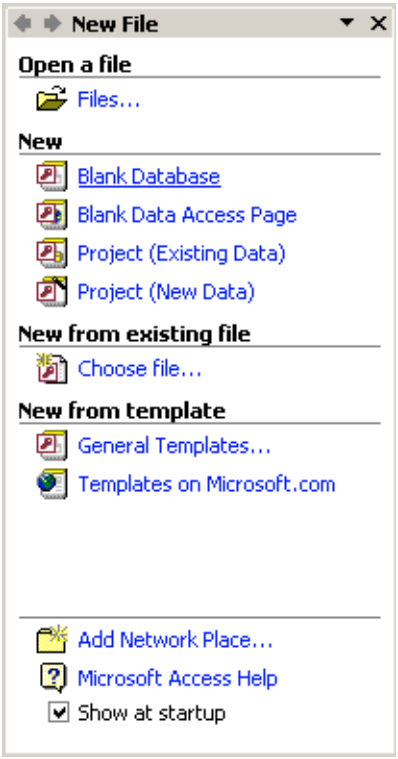
Start Access as you would any other Windows application:

- Select **Microsoft Access** from the **Start** Menu

**Exercise**
*Creating & Saving a New Database*

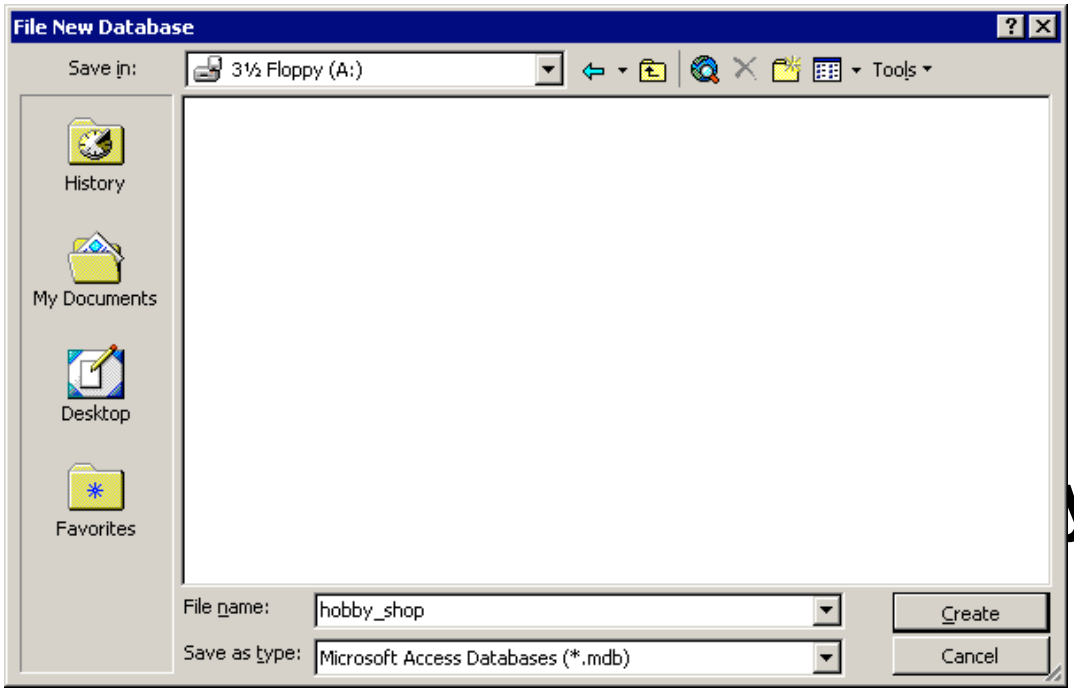
The **New File** task pane will appear at the right of your screen:

- Click on the **Blank Database** link in the **New** section

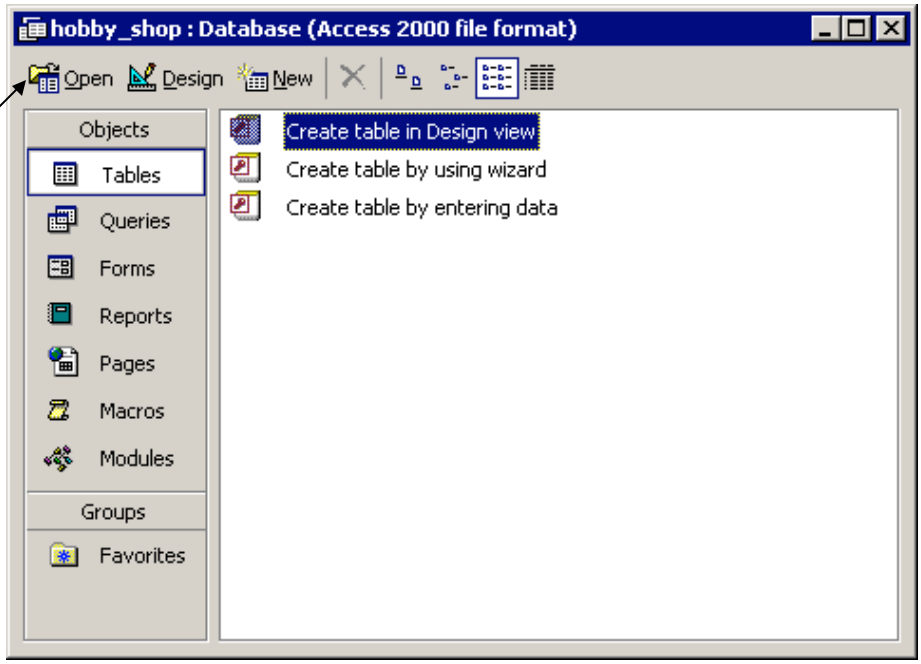



If the task pane is unavailable, select the **View…Toolbars…Task Pane** menu item.

- Insert your Sample Disk into drive A:\
- Name your database file. You can name the file for this exercise **hobby_shop** and save it to your **A:** floppy disk.
- Click the **Create** button




The Database Window gives you access to every **object** in your database:




Database Window Toolbar

The following sections will lead you through creating an Access Database using this Database Window:

## Planning a Database

There are 7 steps to creating a database:

1. Determine the purpose of your database
2. Determine the **tables** you need in your database
3. Determine the **fields** you need in each table
4. Identify fields with **unique** values
5. Determine the **relationship** between tables
6. Refine your design
7. Add **data** and create other database **objects**

### 1. Determine the purpose of your database

What information do you want to extract from your database? You need to determine how a database management system (like Access) can help you turn the raw data you collect into the information you need. Throughout this workbook you will be looking at how a **Hobby Shop** can use Access to help keep tabs on the information needed to run the business.



As the Hobby Shop manager your database might need to provide you with certain information, like names and addresses of customers and suppliers. You might want to keep an inventory of all the stock you currently have in your shop, so that you can reorder when stocks get low. When a customer makes a purchase from your shop, you may want to generate a detailed receipt to keep your books up to date. If they are a new customer, you could take their details so that you could send them your quarterly newsletter.

Once you have determined the information you want to extract from your database, you can then decide on the subjects (Tables), and the facts about each subject (Fields) into which you will divide your data.

### 2. Determine the Tables you need

Each **Table** in your database holds information on just one **subject**.

The Hobby Shop database will need one table for **Customers**, one for **Suppliers**, one for **Products** and one for **Sales**.

Determining the tables to include in your database is a very important and fundamental process. It is important that you sit down and sketch the tables you need **on paper** before you even turn on your computer. Talk to the people who will use the database to see what sort of data they need included. Look at the means by which you collect your data, like the questionnaires you give your customers, or the record sheets you use to keep track of your suppliers.

There are two basic rules when trying to determine the tables to include in your database:

1. A table should not contain **Duplicate** information and information should not be duplicated between tables.

   You should store any one piece of data in your database **once**. A customer's name, for example, should only have to be entered once in the Customer table. Requiring the user of the database to input the customer's name when recording a **Sale** is duplicating information in two different tables. This could lead to data-entry errors.

2. Each table should contain data about one subject.

   Imagine that you designed a database, which stored customer details when a sale was made. Each time a customer bought something, you would enter their name and address, as well as the code for the item being purchased. If the customer returned that item for a refund, you would have to delete the whole record, wiping out valuable customer information in the process. It would be better to create one table for Customer details and one for Sale details. When a sale is cancelled, the only information that needs to be deleted is information about the purchase, leaving the customer's details intact.



3. Determine the Fields you need

The **Fields** in each table hold the facts about one subject. The fields in a table for customer details might include **First Name**, **Last Name**, **Address**, **Age** and other facts that describe each customer. The fields in each table should be related directly to the subject of the table.

4. Identify Fields with unique values

Each Access database table needs one field which gives each of its records a unique label. Examples might include unique serial numbers for each of the products you stock, or a different ID code for each of your customers. This field is called a **Primary Key**, and allows Access to connect information between different tables.

5. Determine the Relationships between tables

Access is known as a **relational database**. You enter raw **data** into tables regarding specific subjects, and then link those tables to extract meaningful **information**. The **Relationships** button on the toolbar lets you form relationships between your tables easily. You will look at building relationships later.

6. Refine the design

Once you have made the tables you think you need and formed relationships between them, you need to study your design to find any flaws. You will enter a few records of data into each table and use sample **Forms** and **Reports** to see if you can extract the information you need from your database design.

7. Enter data and create other database objects

If you are confident your design is sturdy enough to let you extract the information you need, it is time to enter your data. You can then create forms, reports, queries and other database objects to analyze your data.



That was an overview of the entire process of designing a new database. Let's jump in and start creating a database:

## Creating a Table

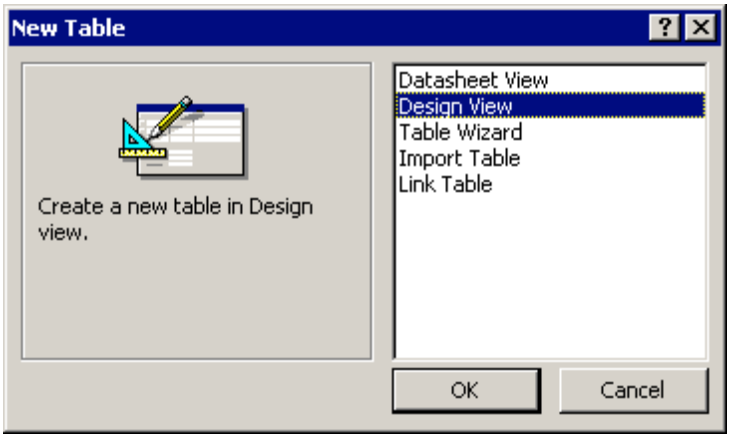
You should already have a **Blank Database** open, which is stored as the file named **hobby_shop.mdb** on your floppy disk. Follow these steps:

**Exercise**
*Creating a Table*

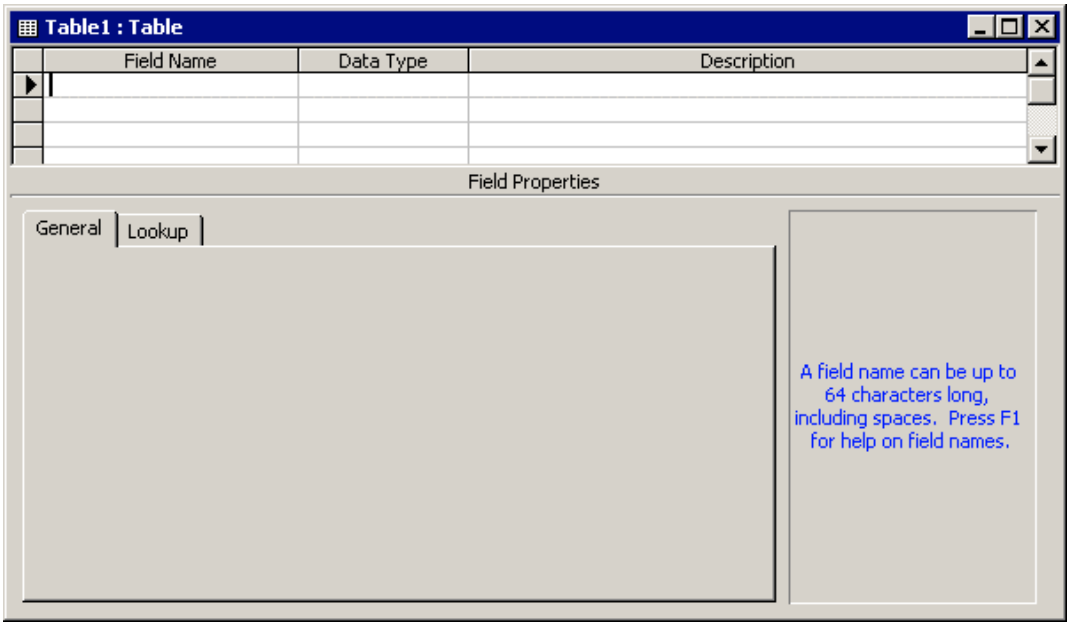
- Click the **Tables** button 

on the **Database** Window
- Click the **New** button 

on the Database Window Toolbar




- Select **Design View** from the **New Table** list
- Click the **OK** button



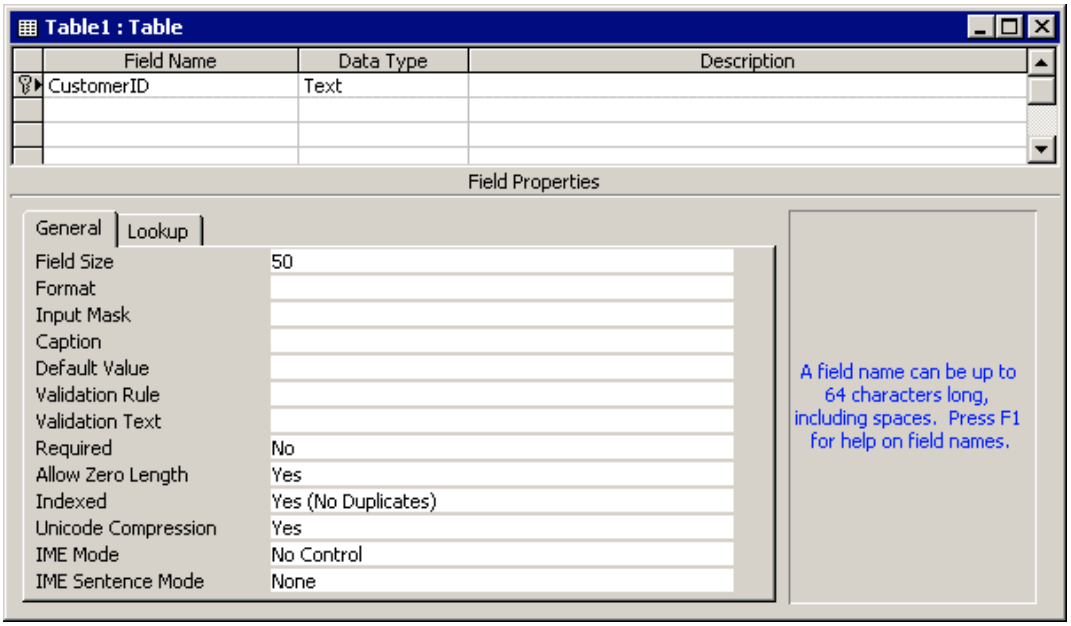



The names and properties of the **Fields** in your table are stored there. Let's add the first field. It will be the **Primary Key** for this table, the place where you store a unique code for each customer in your database.

- Type **CustomerID** into the first **Field Name** box
- Click the **Primary Key** button on the toolbar

**Exercise**
*Adding Fields*

**Exercise**
*Setting a Primary Key*

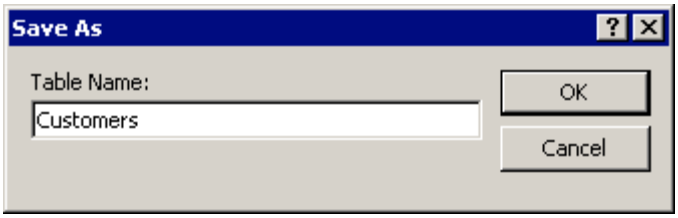


Before you do anything else, let's save this table:

**Exercise**
*Saving a Table*

- Click the **Save** button on the toolbar

**Exercise**
*Naming a Table*




- This table will contain your customers' details, so type **Customers** into the **Table Name:** box
- Click the **OK** button

Now, let's enter the other fields that describe your customers: **Title**, **First Name**, **Last Name**, **Address**, **City**, **State** and **Zip code**.

- Type **Title** into the next **Field Name** box below
- The **Data Type** will be set automatically to **Text** (which you want)
- Type **First Name**, **Last Name**, **Address**, **City**, **State** and **Zip code** into the next six fields. The data type of each of these fields is **Text**, which is the default.



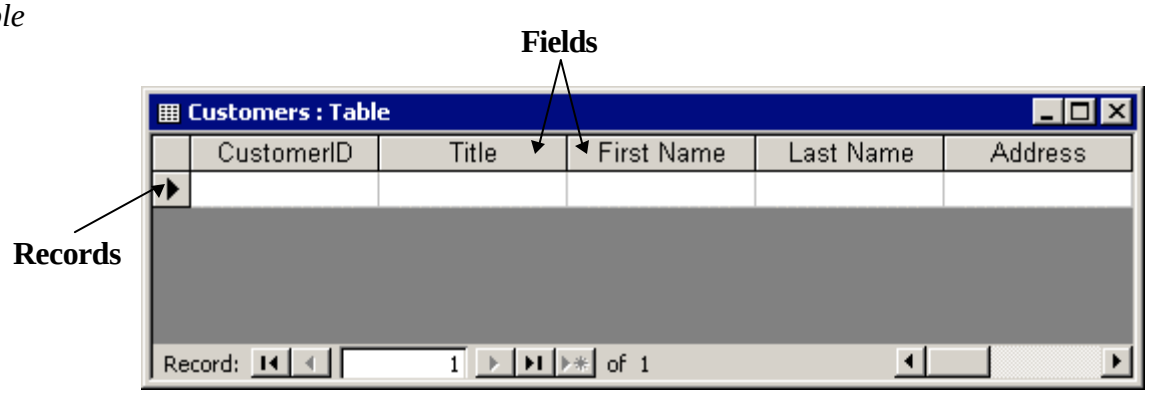
Even though the Zip code is a number, its **Data Type** should be set to **Text**. The only reason to give a field the Data Type of **Number** is if the field is to be involved in calculations.

- Click the **Save** button on the toolbar

Now, look at the table in **Datasheet View**:

**Exercise**
*Viewing a Table in Datasheet mode*

- Click the **Datasheet View** button on the toolbar




A database is a collection of **Records** which categorize data into **Fields**. Each **column** in an Access table stores the table's **fields** and each **row** stores the table's **records**. A record contains all the information on a subject for one member of your database.

When you first create a table it will contain one empty record. To enter data into your new table, just fill in the fields for each record:

Your first customer is:

**Mr Richard Parker**
**1 Houston Street**
**Miners Town, NY 12440**

**Exercise**
*Entering Data into a Table*

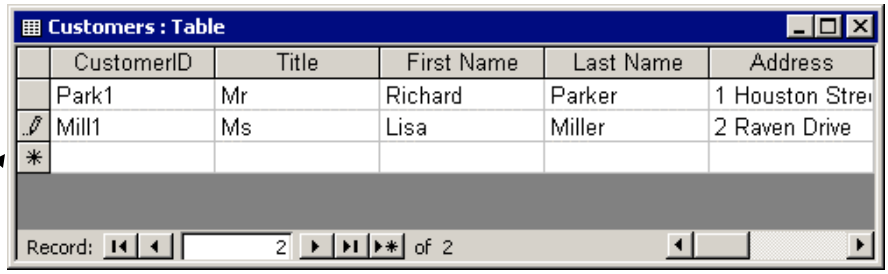
- You have chosen to record the CustomerID as the first four letters of the Last Name, followed by a number. So Mr Parker's code will be **Park1**. Type this into the first **CustomerID** field.
- Enter each part of the customer's details into the appropriate field in the first record. Use the **[Tab]** key on your keyboard to move forward through your fields. Use the **[Shift]+[Tab]** key combination to move backwards.



Your next customer is:

**Ms Lisa Miller**
**2 Raven Drive**
**Smallville, NY 11570**

- Enter this data to make a record for Ms Miller. The CustomerID will be **Mill1**.




**Record selector symbols**

To show the status of the current record in a form or datasheet, Microsoft Access displays the following symbols in the current record selector.

| Symbol | Meaning |
|---|---|
| ▶ | This is the current record; the record has been saved as it appears. |
| ✎ | You are editing this record; changes to the record aren't yet saved. |
| ⊘ | This record is locked by another user; you can't edit it (Microsoft Access database only). |
| * | This is a new record that you can enter information in. |

If you have more records in your table than will fit on your screen, you can navigate between them by using the **Record Navigation** tools:

**Exercise**
*Closing a Table*

- Close the datasheet by clicking the **Close** button in the upper-right corner of the **Customers: Table** datasheet window.

Notice that an icon representing your new table appears on the **Tables** screen of the Database Window. To **open** this table in **Datasheet** view, double-click on the icon or click the **Open** button 

on the **Database Window toolbar**. You can **edit** the layout of the fields in your table in **Design** view by clicking the **Design** button 

on the Database Window toolbar.

## Using a Form to enter data

You can use a **Form** to enter data into your tables. Forms are usually easier to work with than entering your data directly into the table. Let's look briefly at creating a simple form and then using it to add data to your **Customers** table:

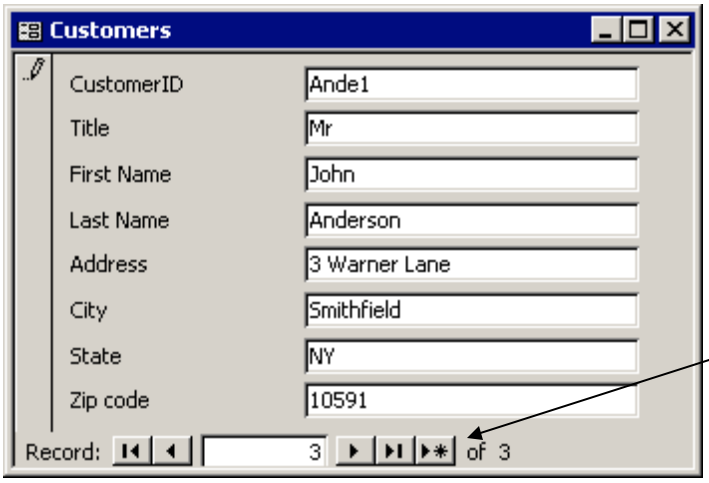


**Exercise**
*Creating a Form using AutoForm*

- Select the **Customers** table from the Tables screen
- Click the **New Object: AutoForm** button on the toolbar

Your next customer is:

**Mr John Anderson**
**3 Warner Lane**
**Smithfield, NY 10591**

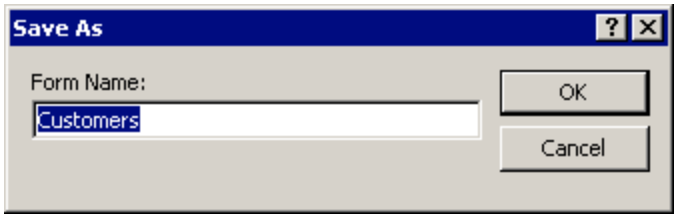



**Exercise**
*Entering data into a Form*

- Click the **New Record** button on the **Record Navigation** bar
- Enter the Customer's details on the form. Use the **[Tab]** and **[Shift]+[Tab]** keystrokes to navigate through your form.

**Exercise**
*Closing a Form*

- Close the form window (click the close button) and click **Yes** to save your new form




- Click the **OK** button (you want the new form to have the name **Customers**)

**Exercise**
*Saving a Form*

## Editing data in a table

To edit data in a table using the table's datasheet view:

- Click the **Tables** button on the Database Window
- Select the Table you want to edit (click on the **Customers** table)
- Click the **Open** button 




### Editing individual cells

1. Click on the cell you want to edit
2. Use standard text formatting techniques to edit the contents of the cell

*Modifying data in a Table*

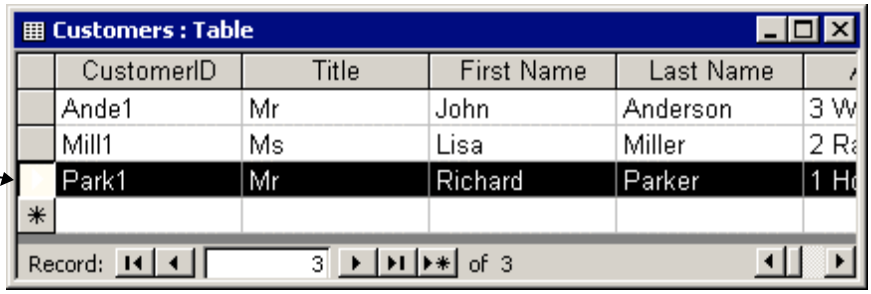
## Selecting table objects

You can select whole **Records**, whole **Fields** or the whole **Table** to edit:

- To select a **Record**, click on the **Record Selector** next to the record of interest

**Exercise**
*Selecting a Record*

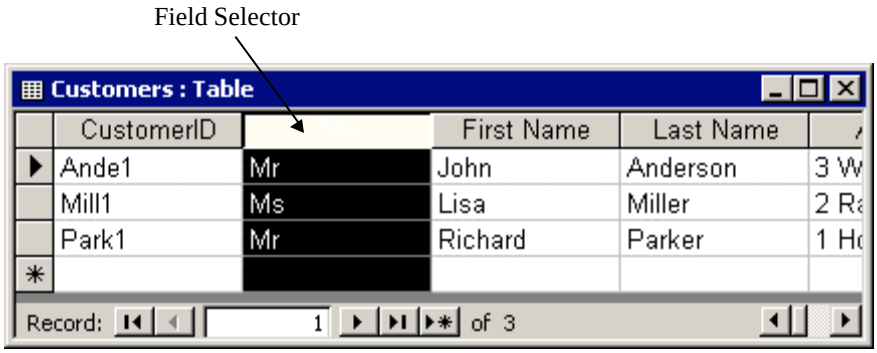
Record Selector




- To select more than one record, **click-and-drag** over the record selector buttons of interest

**Exercise**
*Selecting a Field*

- To select a **Field**, click on the **Field Selector** above the field of interest

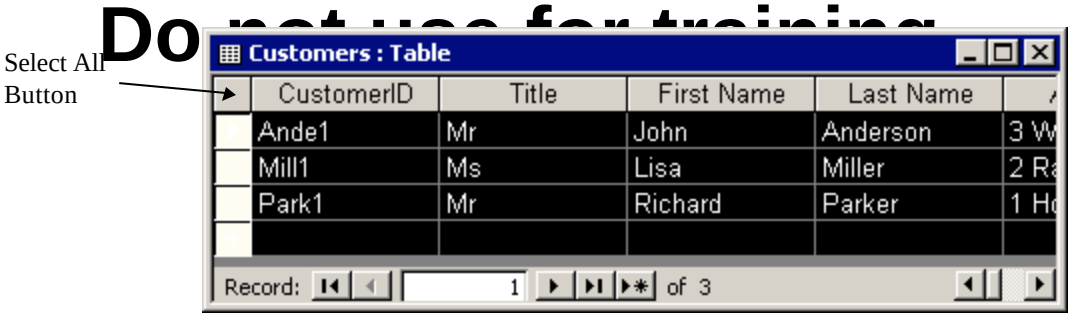



- To select more than one field, **click-and-drag** over the field selector buttons of interest

**Exercise**
*Selecting All Records & Fields*

- To select all the records in your table, click the **Select All** button






## Using Replace

You can let Access find specific data and replace it with other data using the **Replace** command.

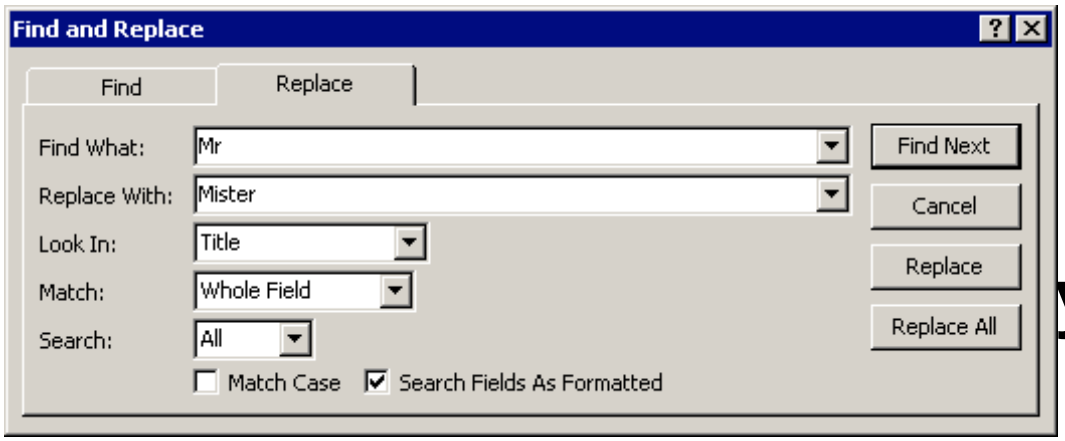
Select the range of data you want to search through. It could be a field, a record, or the whole table. Search through your table and replace all of the **Mr** titles with **Mister**:

**Exercise**
*Replacing text in a Table*

- Click the **Title** field selector
- Select the **Edit…Replace** menu item

Note: Access XP 2002 menus (and toolbars) automatically display frequently used commands. When using Access for the first time, only basic commands will appear. You may need to click on the double arrows  at the bottom of a menu list (eg, **Edit**) to display all of the commands and then select the menu item that you require (eg, **Replace**).

- Type **Mr** into the **Find What:** box
- Type **Mister** into the **Replace With:** box




- Click the **Replace All** button
- You will be presented with a dialog box saying, "**You won't be able to undo this Replace operation.** Do you want to continue?". Click the **Yes** button to confirm your intention.
- Click the **Close** button on the **Find and Replace** dialog box

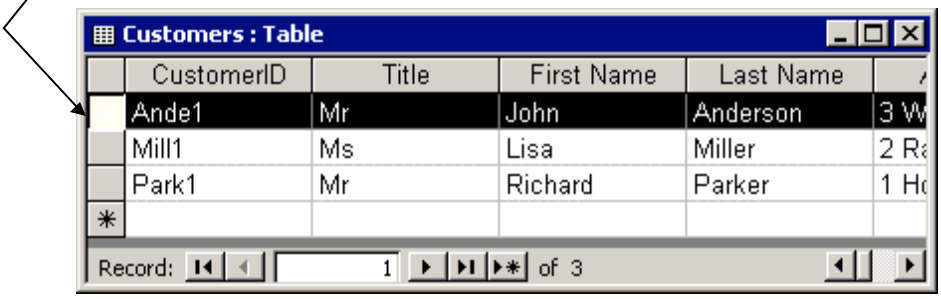

- Change **Mister** back to **Mr** using the Replace feature

## Deleting Records

Deleting unwanted records is a common task:

**Exercise**
*Deleting data from a Table*

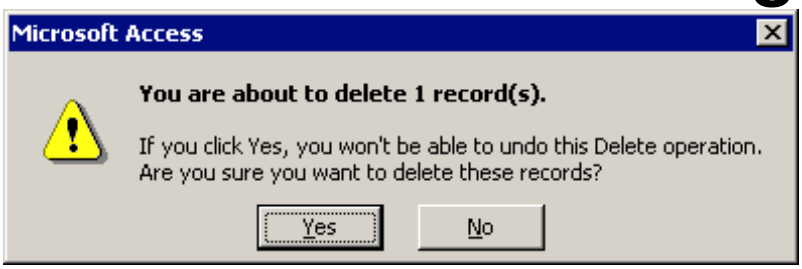
- Click the **Record Selector** button next to the record you want to delete




This selects the record.



- Hit the [Delete] key on your keyboard (alternatively, select the **Edit…Delete** menu item)




- If you are sure you want to delete the selected record, click the **Yes** button. Your record will be permanently deleted.

- Close the Table datasheet