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MS Access 2010

Workbook



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Introduction

Welcome to the WARP! Computer Training MS-Access 2010 workbook.

MS-Access 2010 is a powerful Database application program for Microsoft Windows. It is part of Microsoft Office 2010, a professional integrated office suite.

Database Programs are tools which allow you to store and manipulate information. This course gives step-by-step instruction on the basic features of Access 2010. By the end of the workbook you will be equipped with all of the skills necessary to use Access 2010 to build simple and effective relational databases.

It is important that you practice the exercises in this workbook in your own free time, outside of any formal training course. Computer skills are sometimes difficult to master, and you will find that constant revision will help you retain the skills acquired during this course.

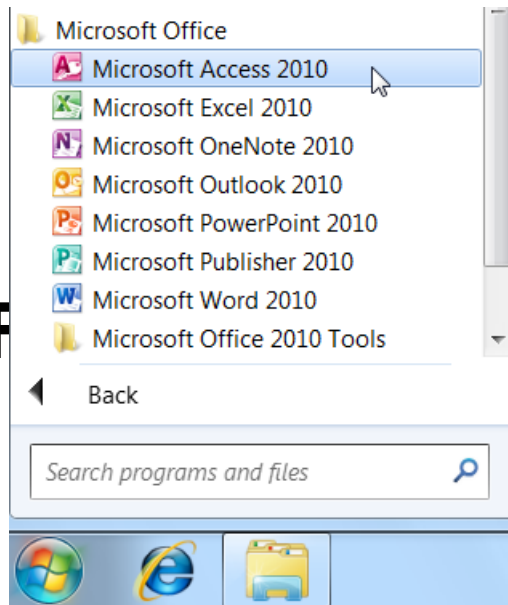
Good luck and happy learning. We hope you enjoy this workbook.

Creating a Database

1

Getting Started

Exercise Starting Access



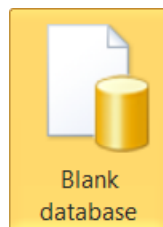
Select **Microsoft Access 2010** from the **Start Menu**:

- Click the **Start Button** on the Windows Taskbar
- Select **All Programs...**

Click on Microsoft Access 2010

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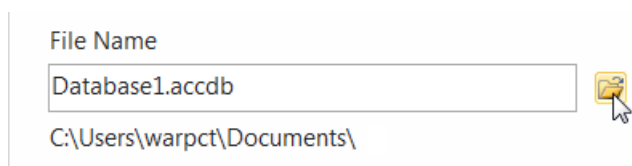
Exercise Creating & Saving a New Database



The **File...New** window will appear, and will present you with a range of database **templates**. You will be creating a new database from scratch, so:

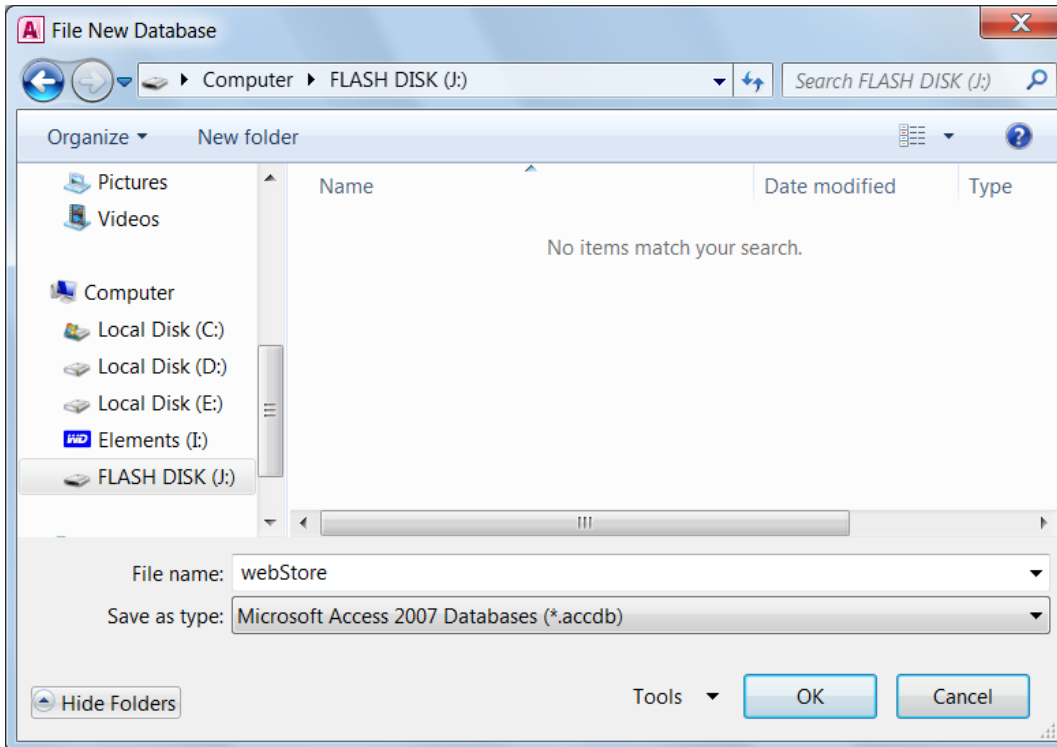
- Click the **Blank database** template button

The **File Name** box on the right of the **File...New** window will prompt you for a name and location for the new database.

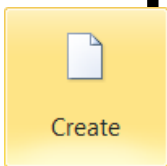


- Click the yellow folder beside the **File Name** box

- Insert your Sample Disk into its drive (e.g.: USB drive J:)
- Select the drive containing the sample disk from the Navigation pane on the left
- Name your database file. You can name the file for this exercise **webStore** and save it to your sample disk.
- Click **OK**

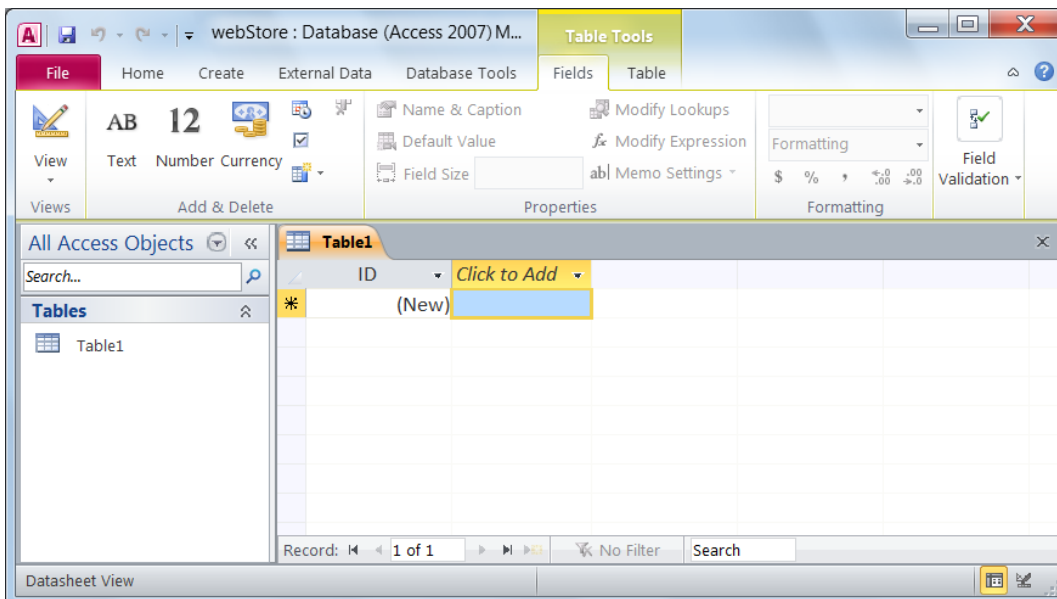


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- Check the file name and location, then click **Create** in the **Blank database** section of the **File...New** window.

The Database Window will appear, and will contain one empty **table**:



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 your online store can use Access to help keep tabs on the information needed to run the business.

As the webStore 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 store, so that you can reorder when stocks get low. When a customer makes a purchase from your store, 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 webStore 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 they purchased. If the customer returned that item for a refund, you would have to delete the whole record – without losing 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.

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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** management system. You enter raw **data** into tables regarding specific subjects, and then link those tables to extract meaningful **information**. The **Relationships** item on the Ribbon 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

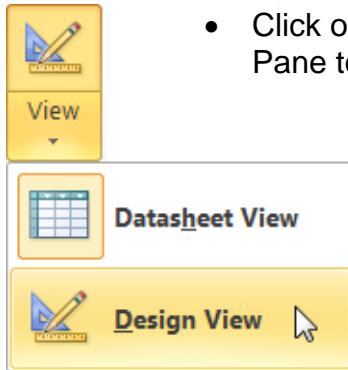
If you are confident your design is sturdy enough to let you extract the information you need, it is time to enter your data. You can then create forms, reports, queries and other database objects to analyze your data.

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

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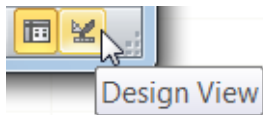
You should already have a **Blank Database** open, which is stored as the file named **WebStore.accdb** on your sample disk. The database should contain an empty table – **Table1** will appear in the **All Access Objects** Navigation Pane to the left of the window. If it doesn't, create a new blank table via the **Create...Table** Ribbon item.

Exercise *Creating a Table*



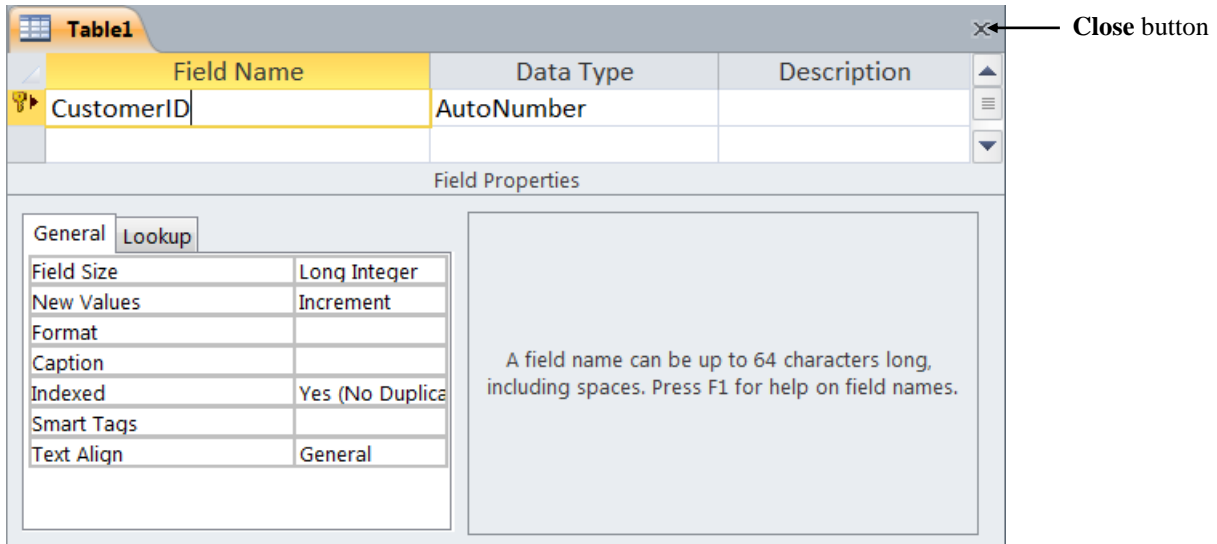
- Click on **Table1** in the **All Access Objects** Navigation Pane to select it (to the left of the screen)
- Select **View...Design View** from the Ribbon. (Click on the bottom-half of **View** in the **Views** group on the **Home** Ribbon tab.)

OR
Right-click the **Table1** item in the **All Access Objects** Navigation Pane and select **Design View** from the shortcut menu
OR
Click the **Design View** button on the status bar



- Click **OK** to save the table with the default name **Table1**

The names and properties of the **Fields** in your table are added here. 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

Exercise
Adding Fields

The first field in a table will be set as the table's Primary Key by default.

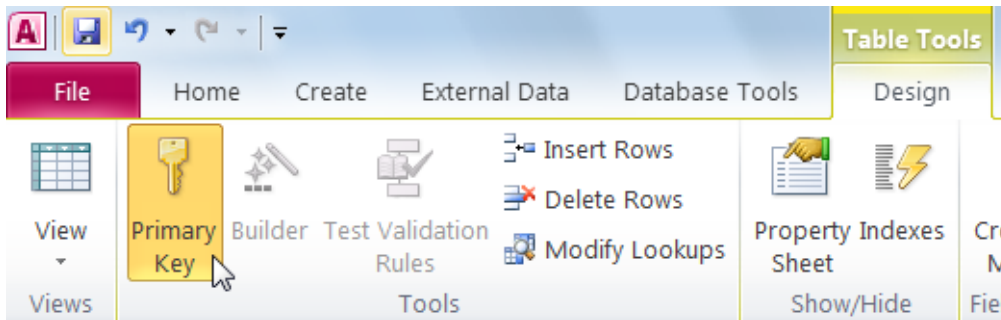


To turn the Primary key status of a field on/off

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- Click the field to select it
- Select **Primary Key** from the **Tools** group on the **Table Tools Design** Ribbon tab:

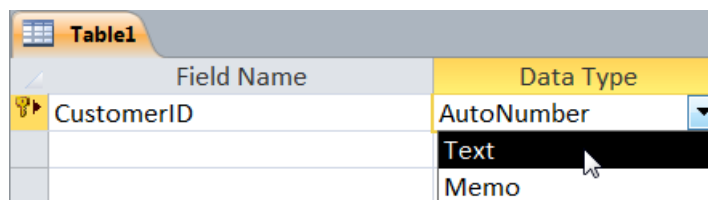
Setting a Primary Key



You can also right-click the field and select **Primary Key** from the shortcut menu. Make sure the primary key is set for the CustomerID field.

- Change the **Data Type** of the **CustomerID** field to **Text**. (Click on the **Data Type** box beside the new field, click on the arrow and select **Text** from the pull-down list.)


Exercise
Changing the Data Type of a Field



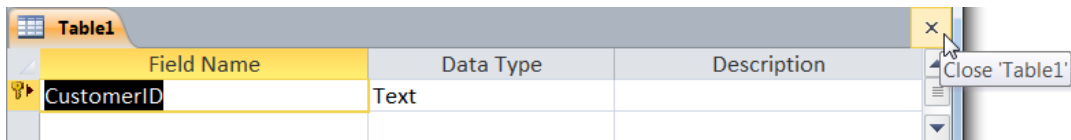
Let's give this table a new name. It is currently named '**Table1**', which isn't very descriptive:

Exercise
Saving a Table



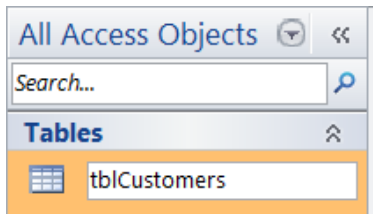
- You will need to close the table before you can change its name. Click **Save**  on the **Quick Access Toolbar** first to save your changes.

- Close the table by clicking its **Close**  button on the top-right corner of the **Table1** design window):



Exercise
Renaming a Table

Right-click **Table1** in the **All Access Objects** Navigation Pane and select **Rename** from the shortcut menu.



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- This table will contain your customers' details, so type **tblCustomers** into the table name box
 - Hit the **[Enter]** key on your keyboard

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

- Right-click the **tblCustomers** item in the Navigation Pane
- Select **Design View** from the shortcut menu
- Type **Title** into the **Field Name** box below CustomerID
- The **Data Type** will be set automatically to **Text** (which you want). Move around the datasheet using the **arrow** keys on your keyboard, the **[Tab]** key or the mouse.
- Type **FirstName**, **LastName**, **Address**, **City**, **State** and **ZipCode** into the next six fields. The data type of each of these fields is **Text**, which is the default.

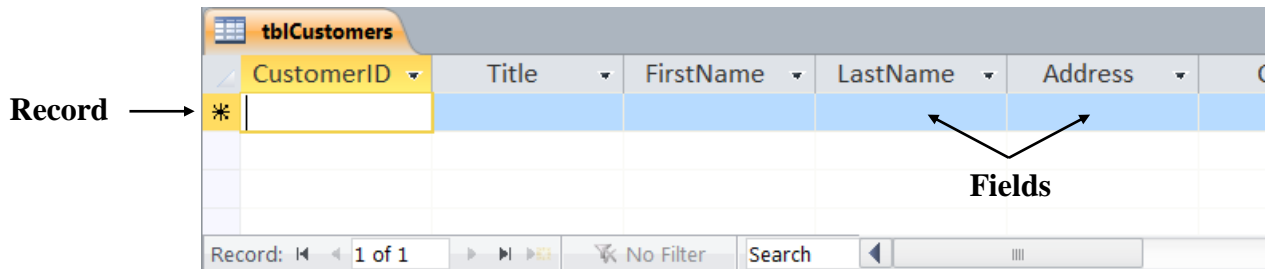
Even though the Zip code is a number, its **Data Type** should be set to **Text**. The only reason to give a field the Data Type of **Number** is if the field is to be involved in calculations.

- Click **Save** on the **Quick Access Toolbar**

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

- Click on the bottom-half of **View** in the **Views** group on the **Table Tools Design** Ribbon tab
- Select **Datasheet View** from the list

Exercise
Viewing a Table in Datasheet mode



A database is a collection of **Records**. Each Record is made up of one or more **Fields** containing a specific item of data. 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.

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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:

Ms Lisa Wallace
1 Franklin Street
Georgetown, NY 12440

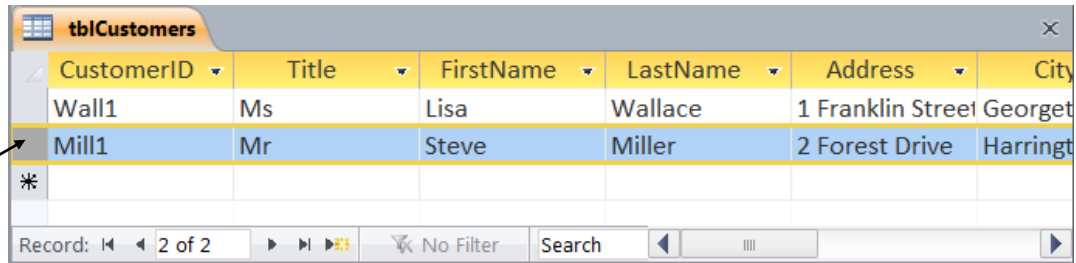
- You have chosen to record the CustomerID as the first four letters of the Last Name, followed by a number. So Ms Wallace's code will be **Wall1**. Type this into the first **CustomerID** field.
- Enter each part of the customer's details into the appropriate field in the first record. Use the **[Tab]** or **right-arrow** key on your keyboard to move forward through your fields. Use the **[Shift]+[Tab]** key combination or **left-arrow** key to move backwards.

Exercise
Entering Data into a Table

Your next customer is:

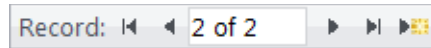
Mr Steve Miller
2 Forest Drive
Harrington, NY 11570

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



Navigating through a Table

You can navigate between records using the **Record Navigation** tools:



Record selector symbols:

Symbol	Meaning
	This is the current record; the record has been saved as it appears. The current record is indicated by a change in color in the record selector.
	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.
	This is a new record in which you can enter information.
	This is the primary key field and contains a value that uniquely identifies the record.

Exercise

Closing a Table

- Close the datasheet by clicking  on the top-right corner of the **tblCustomers** datasheet window.

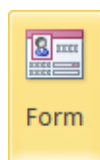
Using a Form to enter data

Forms can be used to enter data into your tables. It is usually easier to enter data into a form than 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

- Click on the **tblCustomers** table in the **All Access Objects** Navigation Pane to select it
- Click on the **Create** Ribbon tab
- Click on **Form** in the **Forms** group






- Click the **Form View** button on the status bar and accept the default form design
- You will be presented with the last customer you entered. Do not type over the top of the details or the record will be altered.

Your next customer is:

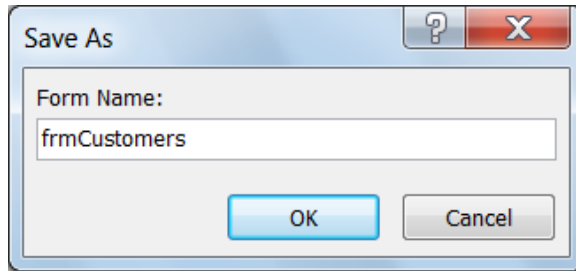
Ms Penny Perez
3 Vermont Lane
Madison, NY 10591

- Click **New (blank) record**  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.
- Close the form window (click its close button or right-click its tab and select **Close** from the shortcut menu)
- Select **Yes** when prompted to save changes to the form

Exercise
Entering data into a Form

Exercise
Closing a Form

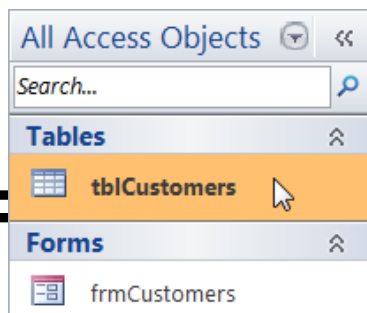
Exercise
Saving a Form



- Type **frmCustomers** into the **Form Name:** box
- Click the **OK** button

Opening a closed table

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



- Double-click the link to the table on the **All Access Objects** Navigation Pane

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Editing individual cells

*Modifying data
in a Table*

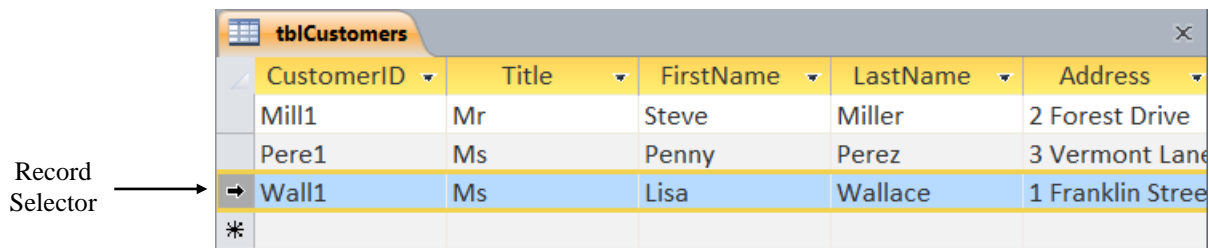
1. Click on the cell you want to edit
2. Use standard text formatting techniques to edit the contents of the cell

Selecting table objects

You can select whole **Records**, whole **Fields** or the whole **Table** for editing:

Exercise
*Selecting a
Record*

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



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

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

Exercise
Selecting a Field

Field Selector

CustomerID	Title	FirstName	LastName	Address	City
Mill1	Mr	Steve	Miller	2 Forest Drive	Harrington
Pere1	Ms	Penny	Perez	3 Vermont Lane	Madison
Wall1	Ms	Lisa	Wallace	1 Franklin Street	Georgetown
*					

- To select more than one field, **click-and-drag** over the field selector buttons of interest
- To select all the records in your table, click the **Select All** button

Exercise
Selecting All Records and Fields

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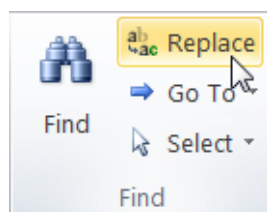
CustomerID	Title	FirstName	LastName	Address	City
Mill1	Mr	Steve	Miller	2 Forest Drive	Harrington
Pere1	Ms	Penny	Perez	3 Vermont Lane	Madison
Wall1	Ms	Lisa	Wallace	1 Franklin Street	Georgetown
*					

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. For this exercise, search through your table and replace all of the **Mr** titles with **Mister**:

- Click the **Title** field selector



- Click on **Replace** in the **Find** group on the **Home** Ribbon tab (or use the **Ctrl+H** keyboard shortcut)

Exercise
Replacing text in a Table

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