



University Information
Technology Services

Microsoft Access 2010

Level 1

University Information Technology Services

Training, Outreach, Learning Technologies and Video Production

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University Information Technology Services

Access 2010 Level 1

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Introduction

Microsoft Access allows people to effectively and efficiently organize data. This document, Level 1, has been developed to introduce you to Microsoft Access. The various sections presented in this document will help you to build a solid knowledge foundation of the software.

When you have mastered the objectives in this document, you can expand upon your knowledge of Microsoft Access by checking out the Level 2 and Level 3 documentation.

Objectives

The following objectives are covered in this document:

- Understanding how to create a table.
- Knowing the purpose of the primary key.
- Having the ability to implement error traps.
- Being able to enter descriptions for fields.
- Understanding how to add and delete fields.
- Having the ability to insert default fields into the form/table.
- Being able to create a drop-down list on the form.
- Having the ability to create a form.
- Understanding how to adjust the form properties.
- Being able to add and remove items on the form.
- Having the ability to adjust tabs on the form.
- Understanding how to input data into a form.
- Being able to work with the data in the database.
- Knowing how to attach photos to a record.
- Having the ability to create calculated fields.

Creating the Database

The following instructions explain how to create a database.

1. Enter a file name in the *File Name* text box (see *Figure 1*).

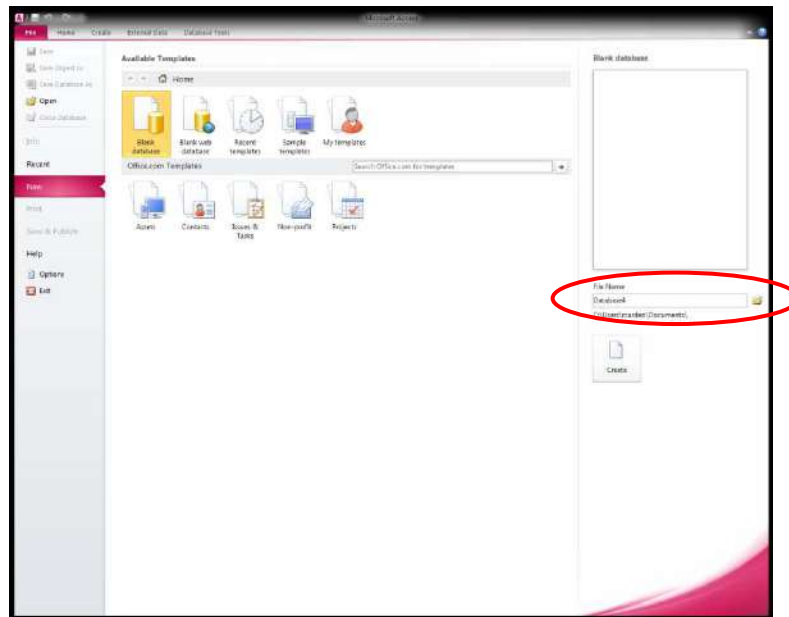


Figure 1 – Creating a Database

2. Click the yellow folder to indicate where the file will be saved (see *Figure 2*).

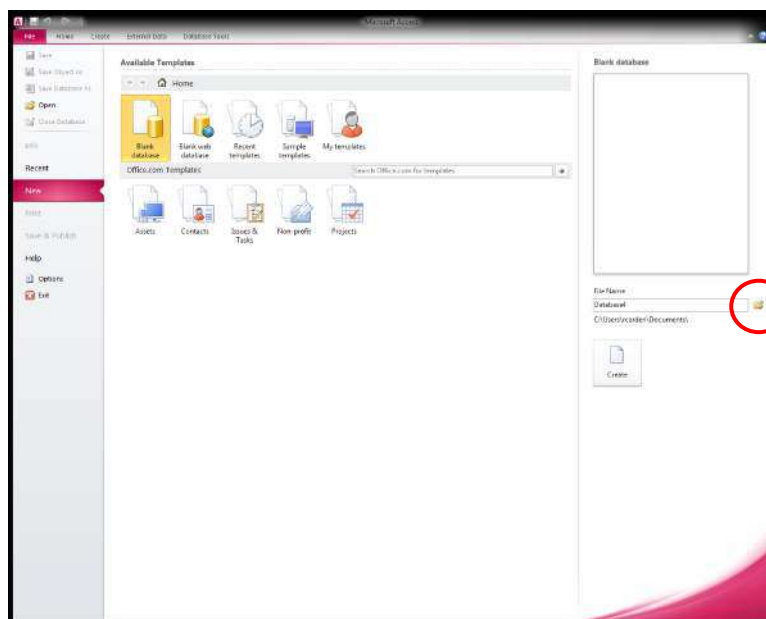


Figure 2 – Saving a File

3. The *File New Database* window will appear (see *Figure 3*). Select where to save the file and click the *OK* button.

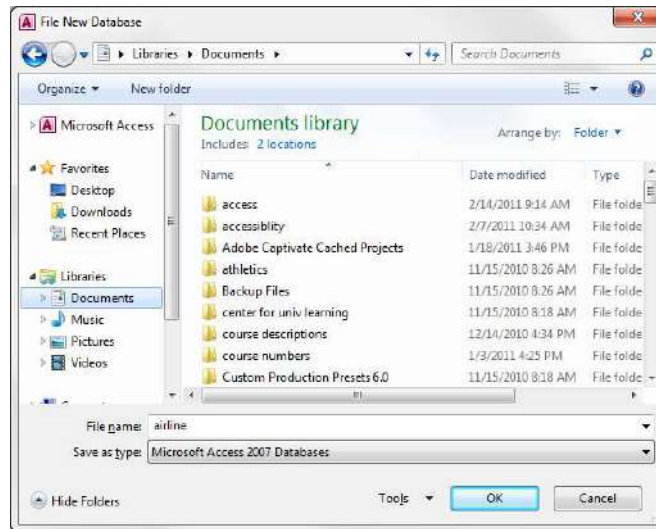


Figure 3 – Saving a Database

4. Click the *Create* button (see *Figure 4*).

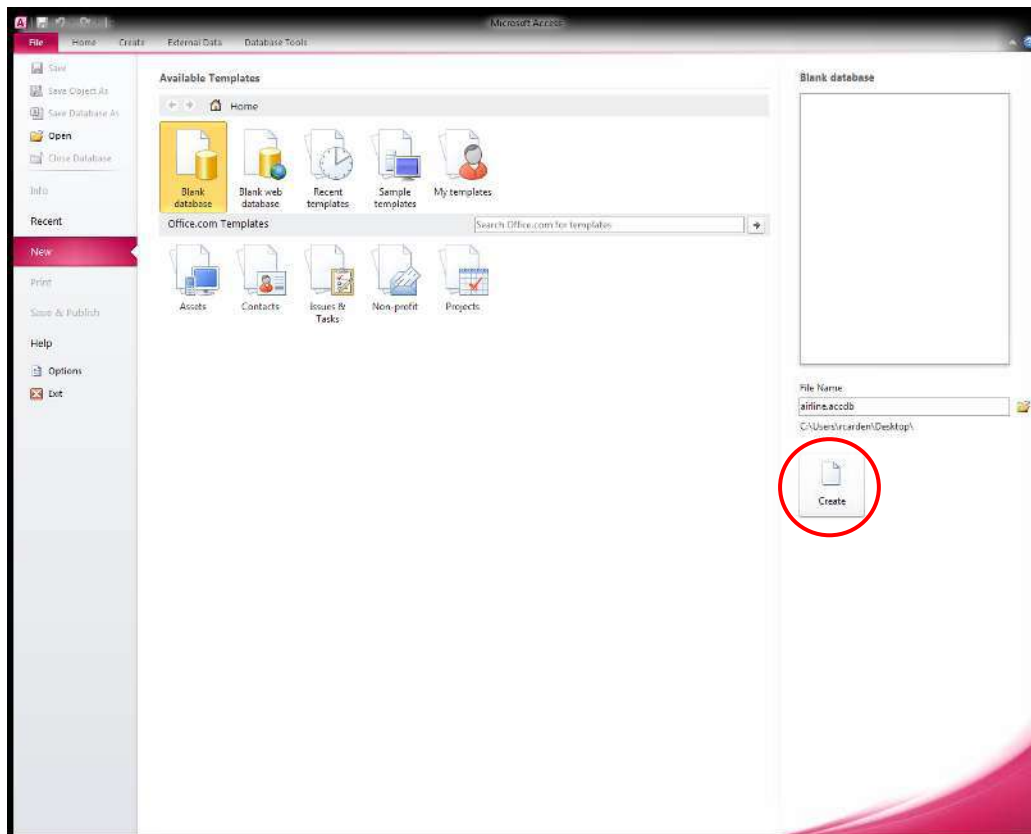


Figure 4 – Create button

Creating a Table

The following instructions explain how to create a table for an airline reservation system.

1. Click the View button (see *Figure 5*).

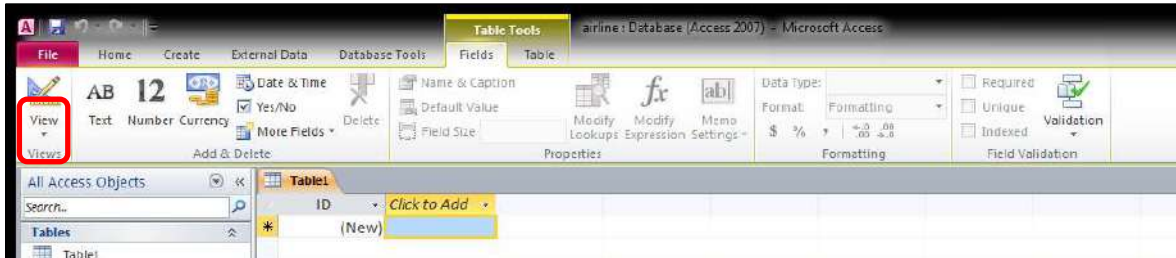


Figure 5 – View button

2. In the menu that appears, select *Design View*.
3. Next, enter the name of the table (example: Reservations) that you are about to create in the *Save As* dialogue box (see *Figure 6*).

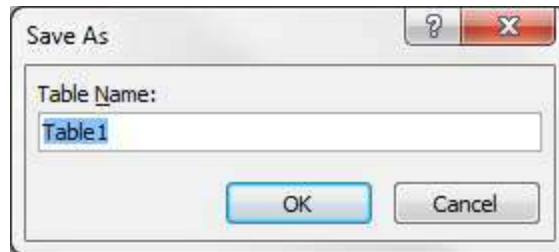


Figure 6 – Table Name

4. Enter the *Field Names* and *Data Types*. *Figure 7* shows an example of a table that could be used for an airline reservation system.

Field Name	Data Type	Description
Transaction Number	AutoNumber	
First Name	Text	
Last Name	Text	
Departure City	Text	
Destination City	Text	
Meal	Yes/No	
Ticket Cost	Currency	
Departure Date	Date/Time	
Departure Time	Date/Time	

Figure 7 – Example of Table for an Airline Reservation System

The following explains the different data types that could be used for the table:

- a. **AutoNumber** – The database will create a unique number for each record that is entered.
- b. **Text** – Use for fields that contain letters and numbers. This option can contain up to 255 characters.
- c. **Memo** – Use for fields requiring long entries. Both letters and numbers can be created in this field. This option can hold up to 65,536 characters.
- d. **Number** – Define the field as this choice when numbers will be required for the field.
- e. **Date/Time** – Select this choice when you need to enter a date or time.
- f. **Currency** – This option is chosen when dollars and cents need to be entered into the field.
- g. **Yes/No** – This appears as a check-mark box. Use this choice when the field requires a yes or no entry.
- h. **OLE Object** – When this is selected, the field can contain a picture or sound clip.
- i. **Hyperlink** – Good choice when email addresses and hyperlinks are required.
- j. **Attachment** – This option allows the user to attach one or more pictures to the record.
- k. **Lookup** – This option helps the user create a drop-down list for the field. When this option is selected, the Lookup Wizard will begin.

Things to Remember When Creating a Table

It is important to remember the following when creating a table.

Primary Key

Records in Access can be organized by a unique, identifying number. The primary key is used to ensure that no two records have the same number. For example, in the table created for an airline reservation system (see *Figure 8*), it is important that each passenger has a unique *Transaction Number*.

Reservations		
Field Name	Data Type	Description
Transaction Number	AutoNumber	
First Name	Text	
Last Name	Text	
Departure City	Text	
Destination City	Text	
Meal	Yes/No	
Ticket Cost	Currency	
Departure Date	Date/Time	
Departure Time	Date/Time	

Figure 8 – Example of Table for an Airline Reservation System

The primary key can be used for the following data types: *Auto Number, Number, and Text*.

The primary key can be toggled on and off by clicking on the *Primary Key* button located on the *Design* tab (see *Figure 9*).

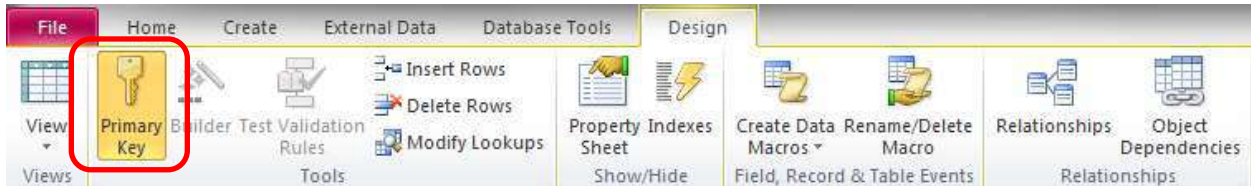


Figure 9 – Primary Key

When the *Primary Key* is active, it will appear as a key icon to the left of the field name (see *Figure 10*).

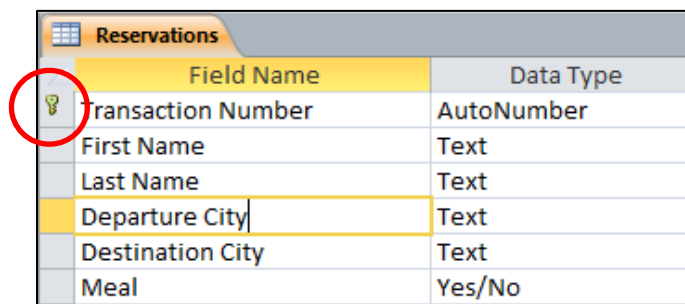
A screenshot of a table design view for a table named 'Reservations'. The table has two columns: 'Field Name' and 'Data Type'. The fields and their data types are: 'Transaction Number' (AutoNumber), 'First Name' (Text), 'Last Name' (Text), 'Departure City' (Text), 'Destination City' (Text), and 'Meal' (Yes/No). A yellow key icon is positioned to the left of the 'Transaction Number' field name, and this icon is circled in red.

Figure 10 – Key Icon

Error Traps

Error traps help to make certain that correct data is entered into the database by users. For example, for the field *Destination City* in *Figure 11*, perhaps the only three cities that should be entered are *Atlanta, Chicago, and Miami*.

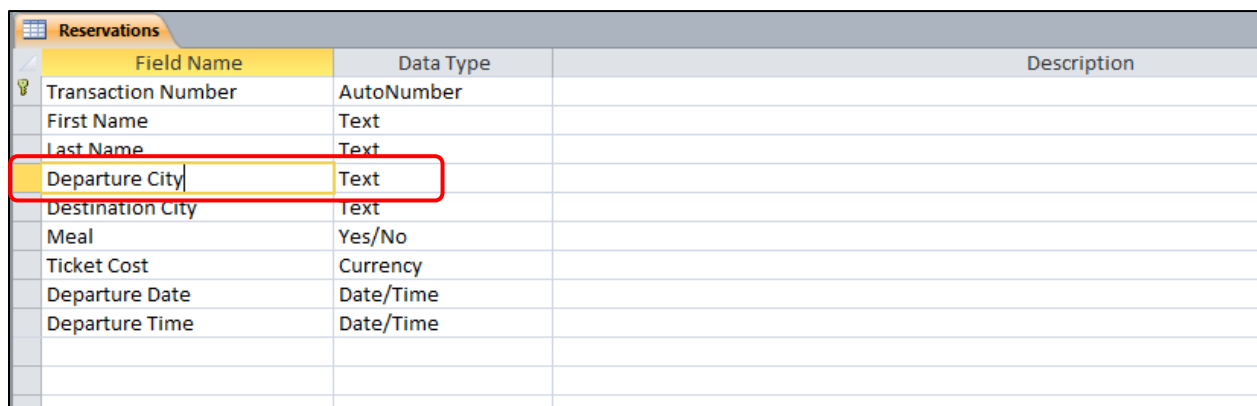
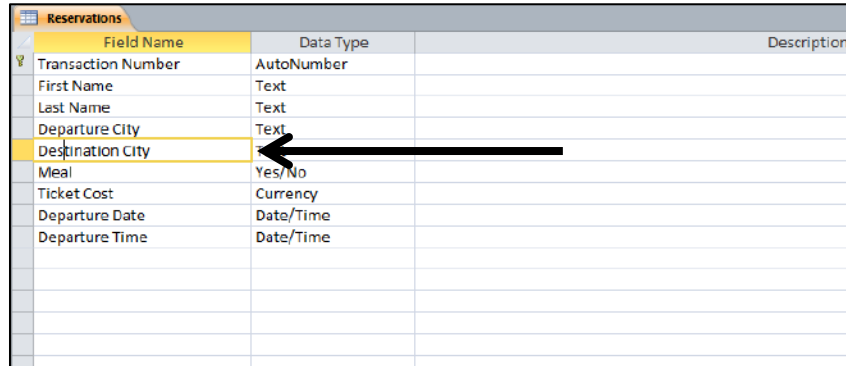
A screenshot of a table design view for a table named 'Reservations'. The table has three columns: 'Field Name', 'Data Type', and 'Description'. The fields and their data types are: 'Transaction Number' (AutoNumber), 'First Name' (Text), 'Last Name' (Text), 'Departure City' (Text), 'Destination City' (Text), 'Meal' (Yes/No), 'Ticket Cost' (Currency), 'Departure Date' (Date/Time), and 'Departure Time' (Date/Time). The 'Departure City' field is highlighted with a red rectangle.

Figure 11 – Airline Reservation Table

The following explains how to create an error trap for this field.

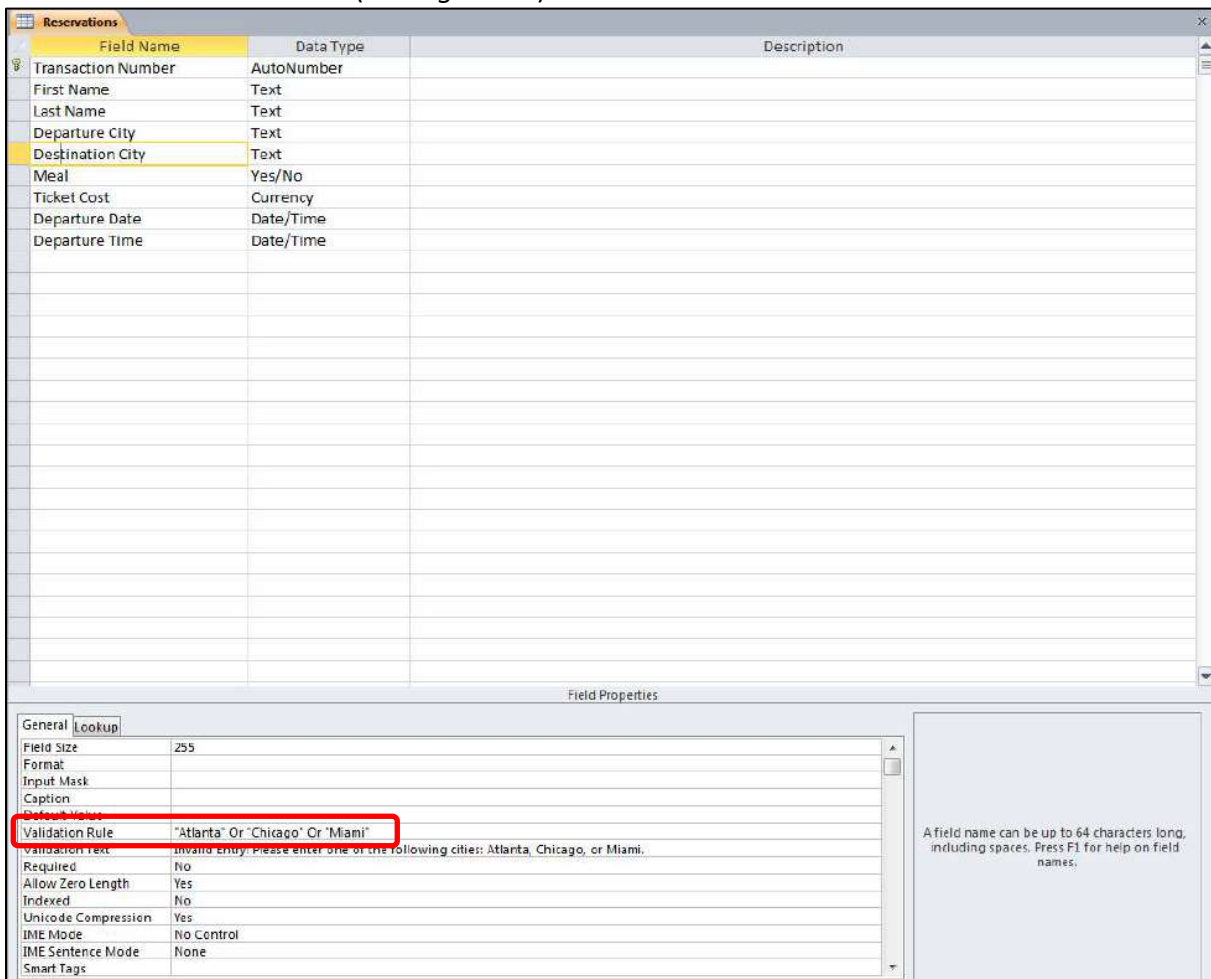
1. Click to select the field *Destination City* (see *Figure 12*).



Field Name	Data Type	Description
Transaction Number	AutoNumber	
First Name	Text	
Last Name	Text	
Departure City	Text	
Destination City	Text	
Meal	Yes/No	
Ticket Cost	Currency	
Departure Date	Date/Time	
Departure Time	Date/Time	

Figure 12 – Airline Reservation Table

2. Click *Validation Rule* (see *Figure 13*).



Field Name	Data Type	Description
Transaction Number	AutoNumber	
First Name	Text	
Last Name	Text	
Departure City	Text	
Destination City	Text	
Meal	Yes/No	
Ticket Cost	Currency	
Departure Date	Date/Time	
Departure Time	Date/Time	

Field Properties	
General	Lookup
Field Size	255
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	"Atlanta" Or "Chicago" Or "Miami"
Validation Text	Invalid Entry: Please enter one of the following cities: Atlanta, Chicago, or Miami.
Required	No
Allow Zero Length	Yes
Indexed	No
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Smart Tags	

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

Figure 13 – Validation Rule

To make certain that the user enters only *Atlanta*, *Chicago*, or *Miami*, enter the following:
Atlanta or Chicago or Miami

If you were working with numbers, you could also enter a formula to make certain that only a specific range of numbers are entered. For example, if you wanted to make sure that only numbers from 0 to 100 are entered, you would enter the following: **>= 0 and <= 100**

3. Next, select *Validation Text* (see *Figure 14*).

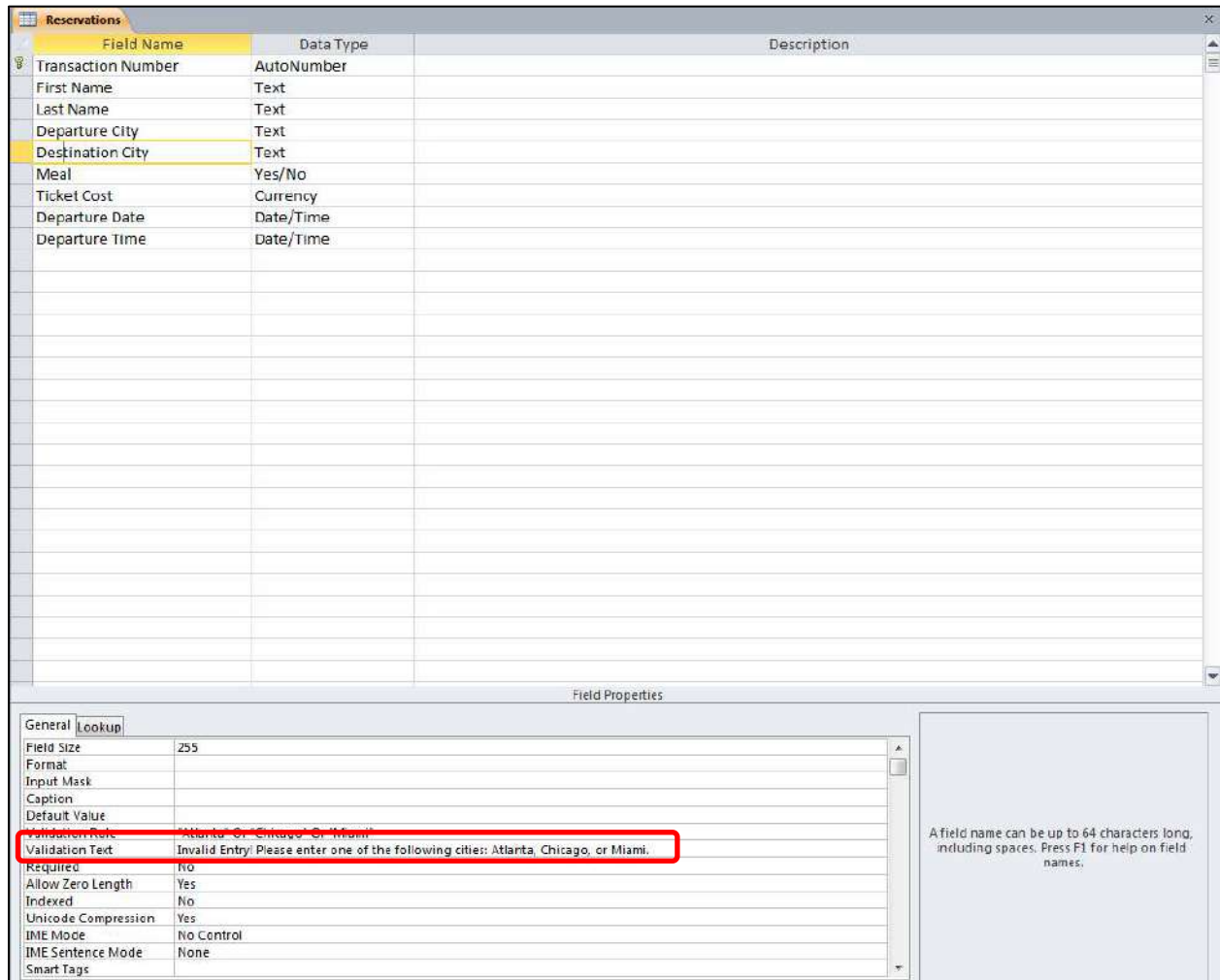


Figure 14 – Validation Text

4. Whatever appears in *Validation Text* is the message that will appear if a user attempts to enter data that violates the *Validation Rule* that was entered in *Step 2*. For example, the following is an example of a message that could be entered: **Invalid Entry! Please enter one of the following cities: Atlanta, Chicago, or Miami**

Figure 15 is an example of how the error message would appear to the user.



Figure 15 – Error Message

Descriptions

The description area (see Figure 16) is a place where you can provide instructions to the users. The users will see the instructions as they enter the various fields for the database.

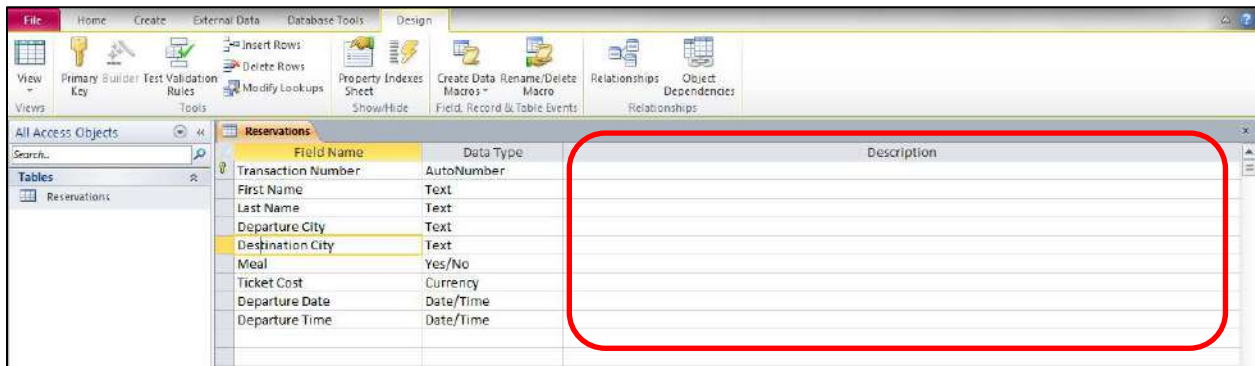


Figure 16 – Description

The following explains how to create a *Description* for a field.

1. Place your cursor in the *Description* column next to the field of your choice (see Figure 16).
2. Enter a meaningful description for the user. For example, for the *Meal* field in Figure 17, you could enter, “Please select if the customer wants a meal on the flight.”

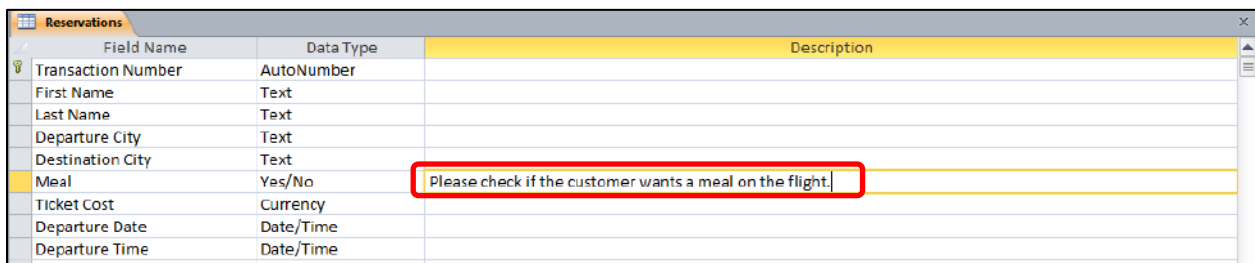


Figure 17 – Description

Figure 18 shows where the *Description* text will appear when the user selects the *Meal* field.

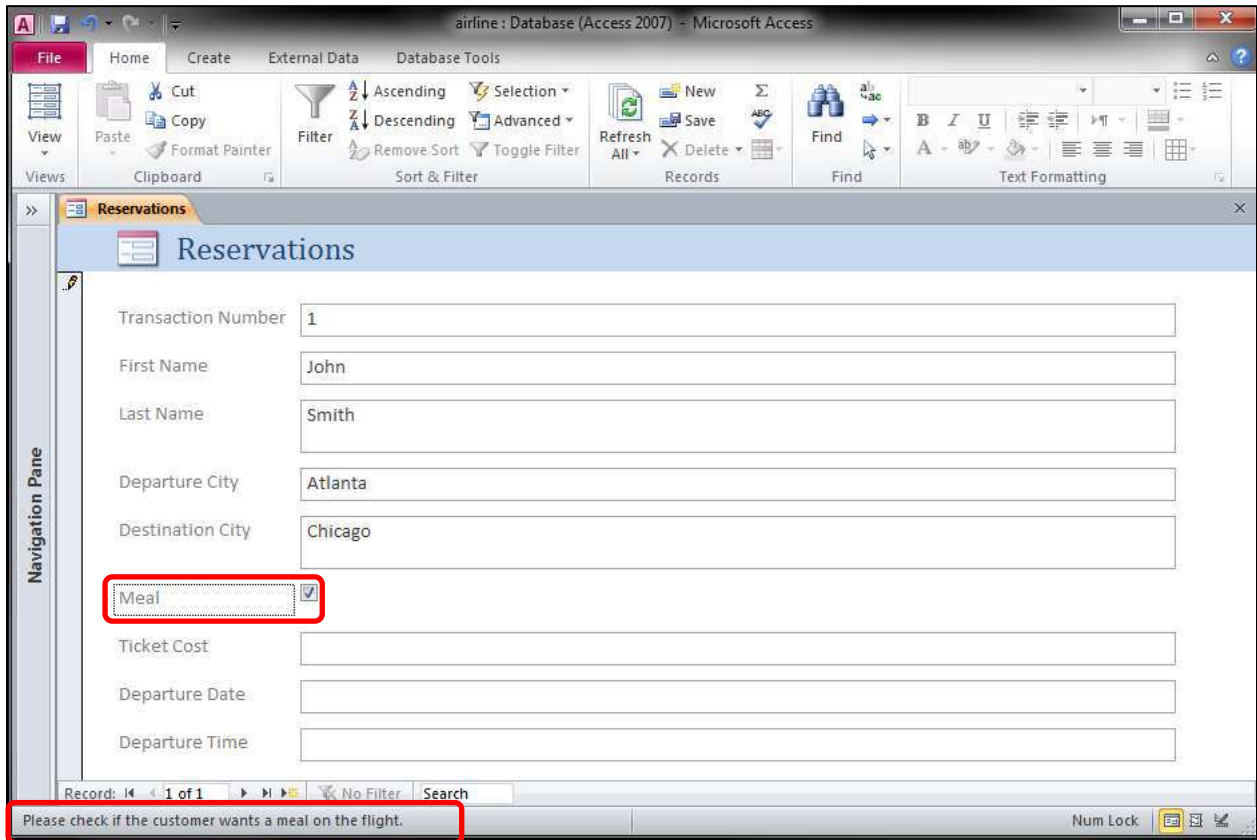


Figure 18 – Description

Adding and Deleting Fields

Once the table has been completed for the database, it is possible to add and delete fields. The following explains how to add the field *Transaction Date* to Figure 19 between *Transaction Number* and *First Name*.

Field Name	Data Type	Description
Transaction Number	AutoNumber	
First Name	Text	
Last Name	Text	
Departure City	Text	
Destination City	Text	
Meal	Yes/No	
Ticket Cost	Currency	
Departure Date	Date/Time	
Departure Time	Date/Time	

Add Transaction Date

Figure 19 – Adding and Deleting Fields

1. Allow your mouse pointer to hover over the field *First Name* (see *Figure 20*) and right-click.

The screenshot shows a table with three columns: Field Name, Data Type, and Description. The 'First Name' row is highlighted with a red rectangle. The table contains the following data:

Field Name	Data Type	Description
Transaction Number	AutoNumber	
First Name	Text	
Last Name	Text	
Departure City	Text	
Destination City	Text	
Meal	Yes/No	
Ticket Cost	Currency	
Departure Date	Date/Time	
Departure Time	Date/Time	

Figure 20 – Adding and Deleting Fields

2. In the menu that appears, select *Insert Rows* (if you want to delete this field, you would select *Delete Rows*). Upon completing this step, a row will be available for you to enter the field *Transaction Date* (see *Figure 21*).

The screenshot shows the same table as Figure 20, but with a new empty row added at the top, below 'Transaction Number'. This new row is highlighted with a red rectangle. The table contains the following data:

Field Name	Data Type	Description
Transaction Number	AutoNumber	
First Name	Text	
Last Name	Text	
Departure City	Text	
Destination City	Text	
Meal	Yes/No	
Ticket Cost	Currency	
Departure Date	Date/Time	
Departure Time	Date/Time	

Figure 21 – Adding and Deleting Fields

Default Values

As the database designer, you have the option of including *Default Values*. For example, in the table in *Figure 22*, suppose that 99% of the entries for *Departure City* will be *Atlanta*. You could include a default value of *Atlanta* to make the data entry easier for the user.

The screenshot shows the same table as Figure 21, but with the 'Departure City' row highlighted by a red rectangle. The table contains the following data:

Field Name	Data Type	Description
Transaction Number	AutoNumber	
First Name	Text	
Last Name	Text	
Departure City	Text	
Destination City	Text	
Meal	Yes/No	
Ticket Cost	Currency	
Departure Date	Date/Time	
Departure Time	Date/Time	

Figure 22 – Default Values

The following explains how to include the default value of *Atlanta* for *Departure City*.

1. Select the field *Departure City* (see Figure 23).

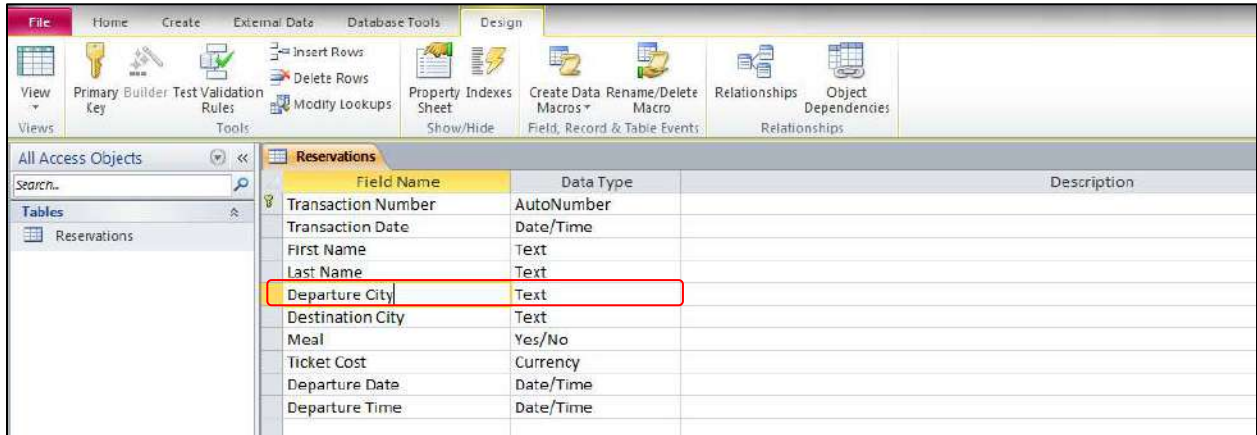


Figure 23 – Default Values

2. Click *Default Value* (see Figure 24).

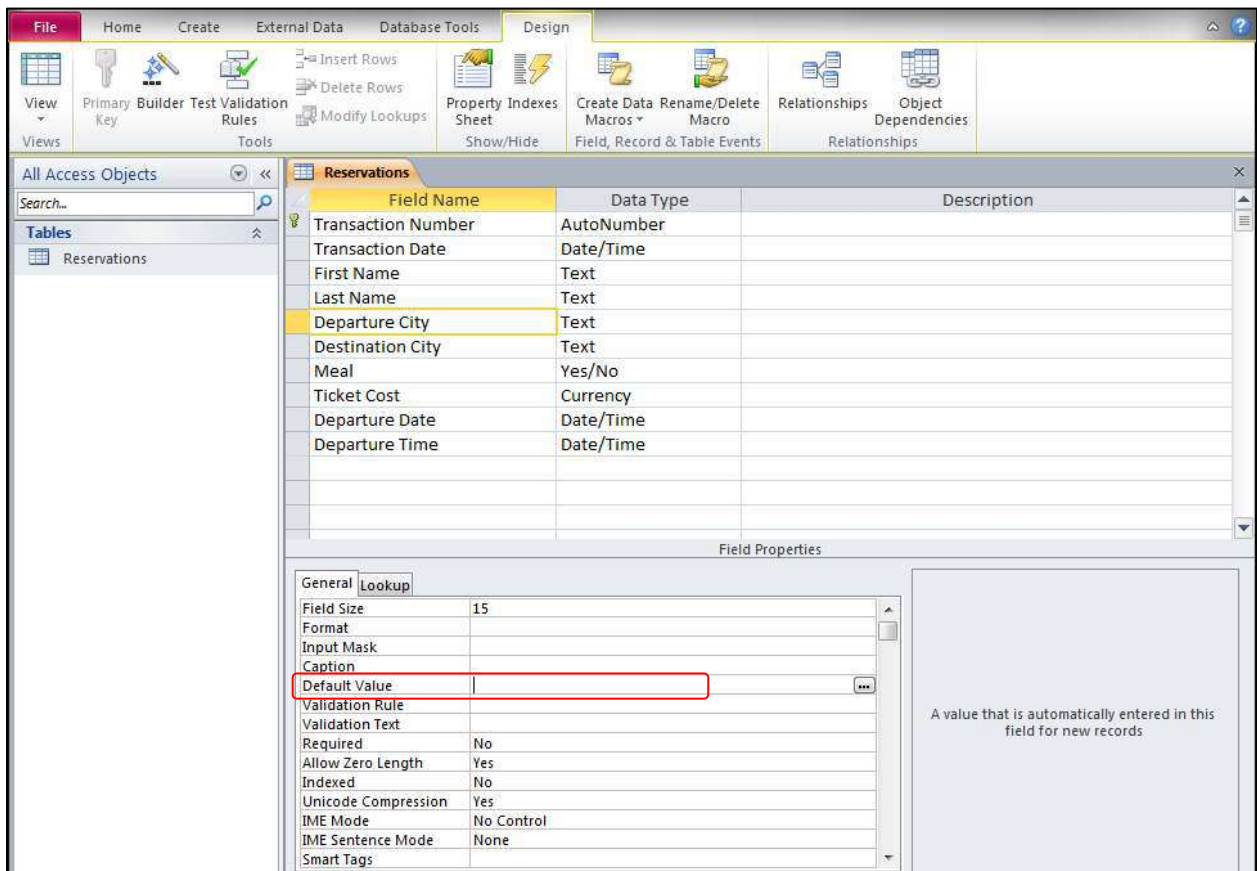


Figure 24 – Default Values

3. Enter *Atlanta* (see *Figure 25*).

General		Lookup
Field Size	15	
Format		
Input Mask		
Caption		
Default Value	Atlanta	
Validation Rule		
Validation Text		
Required	No	
Allow Zero Length	Yes	
Indexed	No	
Unicode Compression	Yes	
IME Mode	No Control	
IME Sentence Mode	None	
Smart Tags		

Figure 25 – Default Values

4. When the user opens a form, *Atlanta* will appear as a default for the field *Departure City* (see *Figure 26*). This will make the job of the data entry person easier because he or she will not need to type *Atlanta*.

However, another city can be entered for *Departure City*, if desired. For example, *Chicago* could be entered in place of *Atlanta*.

Reservations

Reservations

Transaction Number:

Transaction Date:

First Name:

Last Name:

Departure City:

Destination City:

Meal:

Ticket Cost:

Departure Date:

Departure Time:

Atlanta – Default Value

Figure 26 – Default Values

Creating a Drop-Down List

A drop-down list can make the job of the data entry person easier. When a drop-down list is available, the user simply clicks the list and selects the option of his or her choice.

For example, in *Figure 27*, *Destination City* would be the perfect place to include a drop down list. If the cities for the *Destination City* field were *Atlanta*, *Chicago*, and *Miami*, the user would simply click the list and select the city of his or her choice. This eliminates a lot of typing for the user.

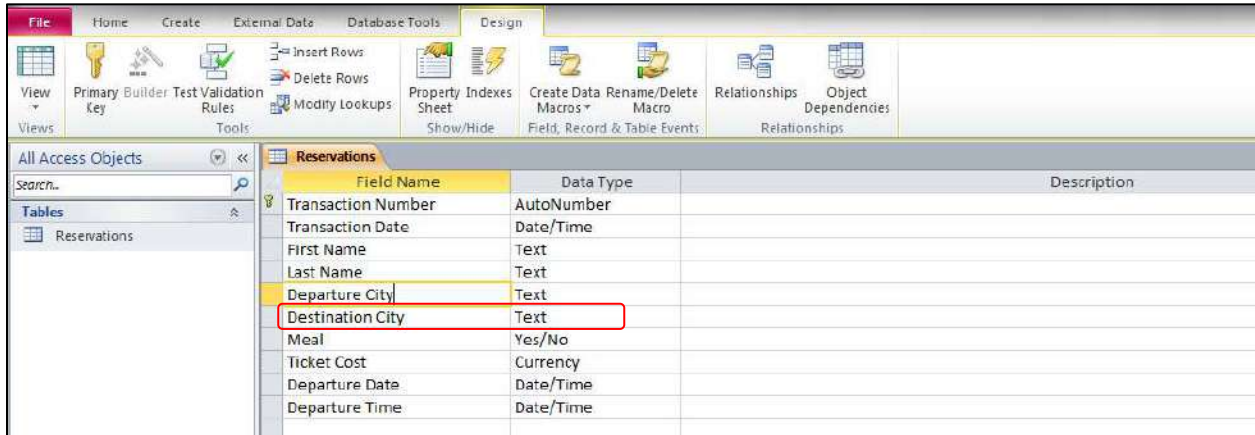


Figure 27 – Creating a Drop-Down List

The following steps explain how to create a drop-down list for the field *Destination City*.

1. For *Destination City*, select the down-arrow (see *Figure 28*).

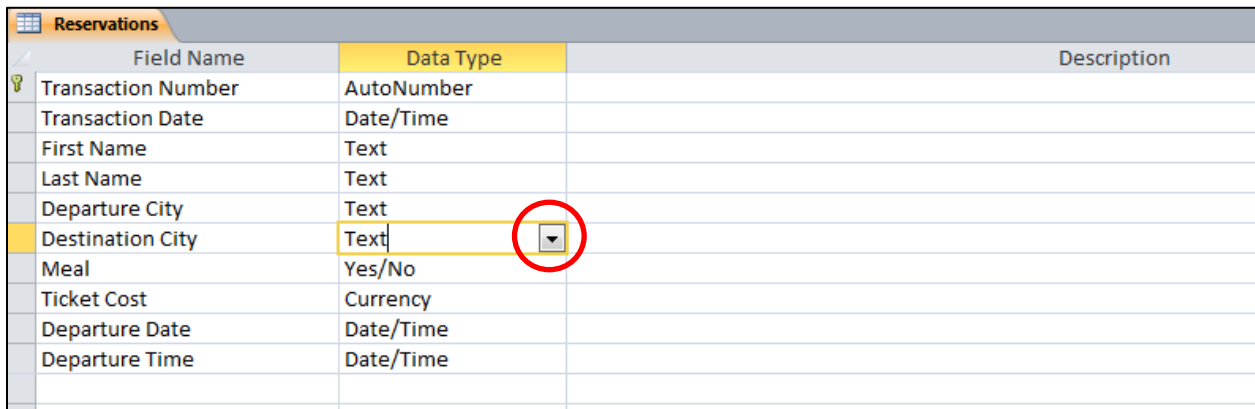


Figure 28 – Down-Arrow

- From the menu that appears, select *Lookup Wizard* (see *Figure 29*).

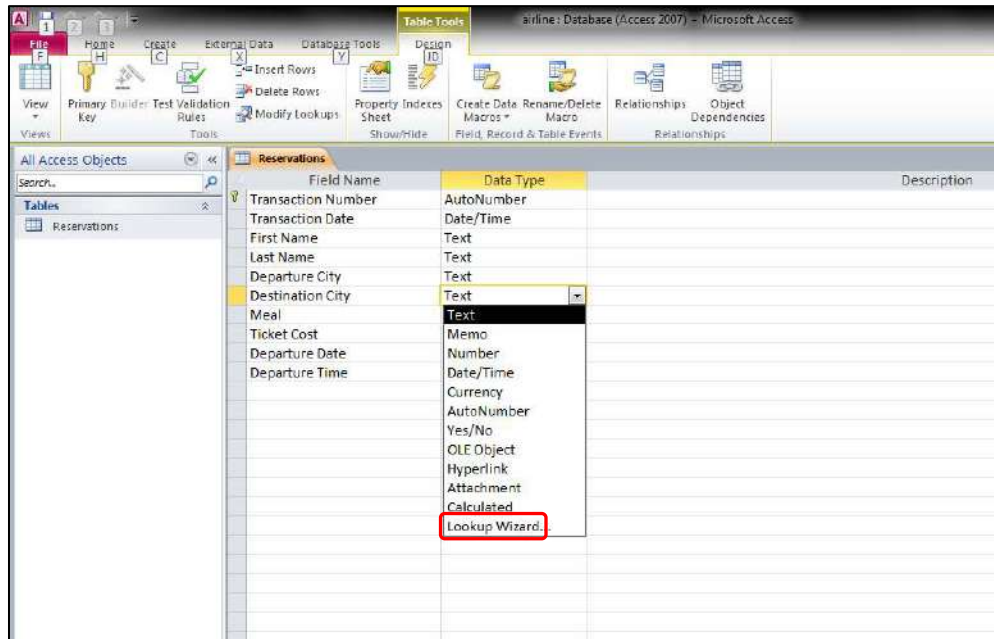


Figure 29 – Lookup Wizard

- The *Lookup Wizard* dialogue box will appear. Select the option, “I will type in the values that I want.” Then, click the *Next* button (see *Figure 30*).

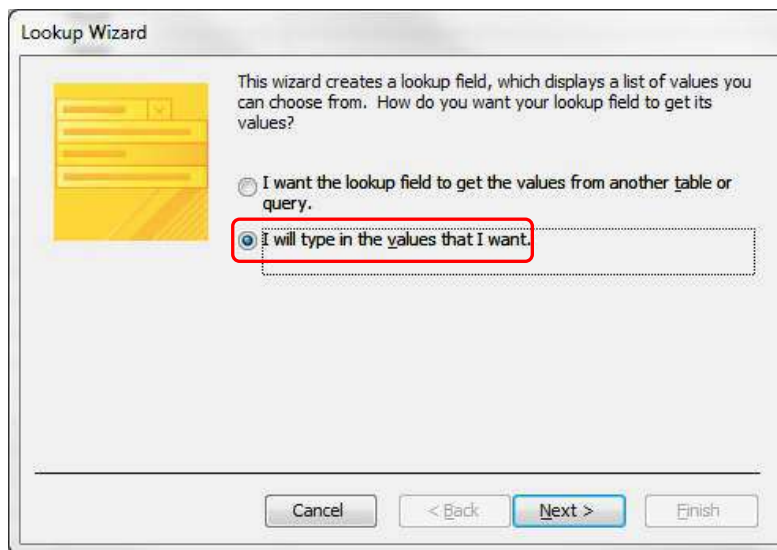


Figure 30 – Lookup Wizard

- Under *Col 1* (see *Figure 31*), type the values that you want to appear. Then, click the *Finish* button.

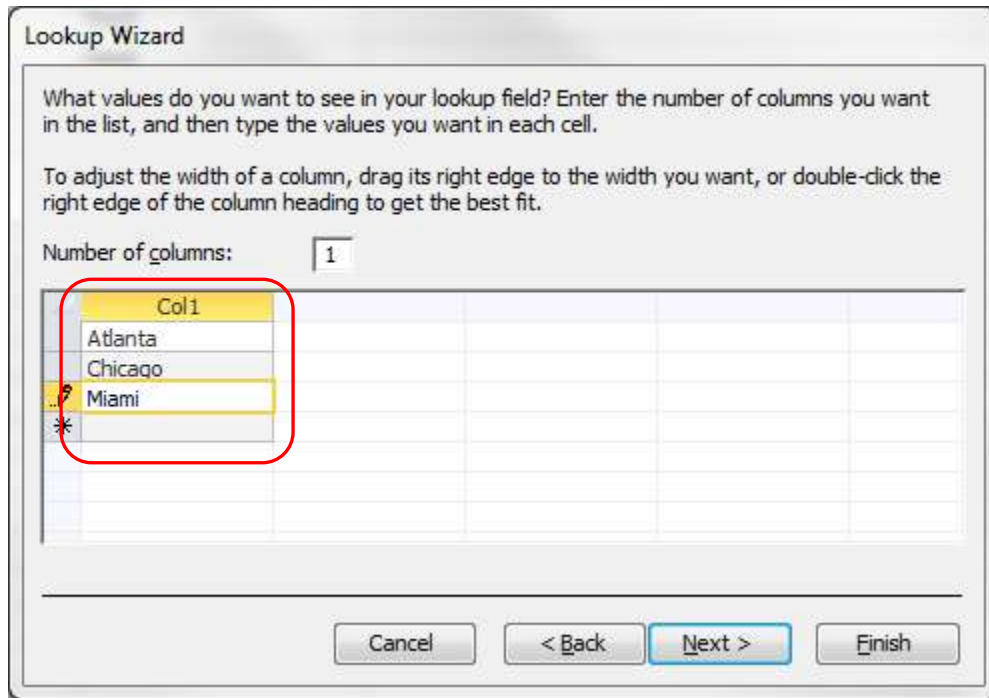


Figure 31 – Lookup Wizard

- Figure 32* shows how the drop-down list would appear in the form for the user.

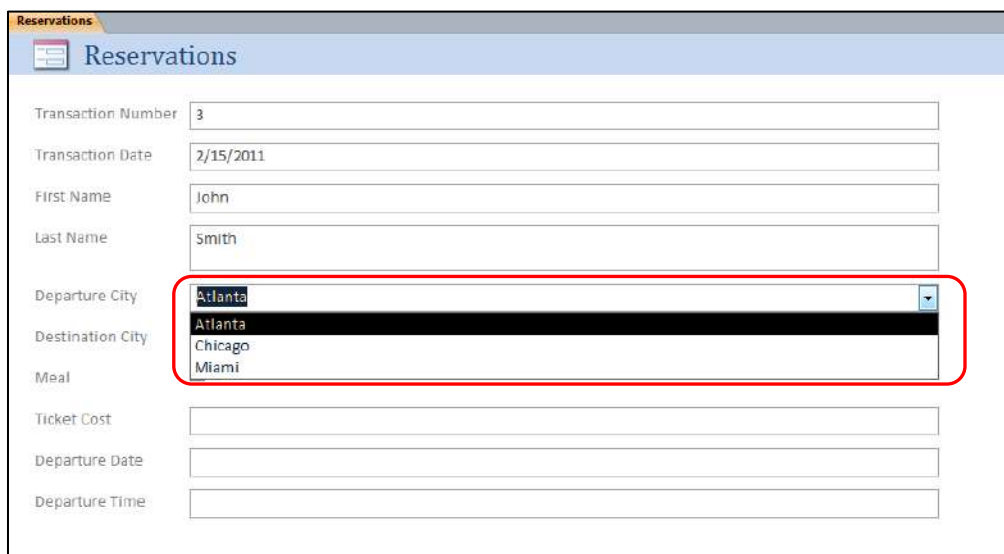


Figure 32 – Drop-down List

Opening and Closing the Table

When you are finished creating the table, it can be closed by clicking the “X” in the upper-right area of the table (see *Figure 33*).

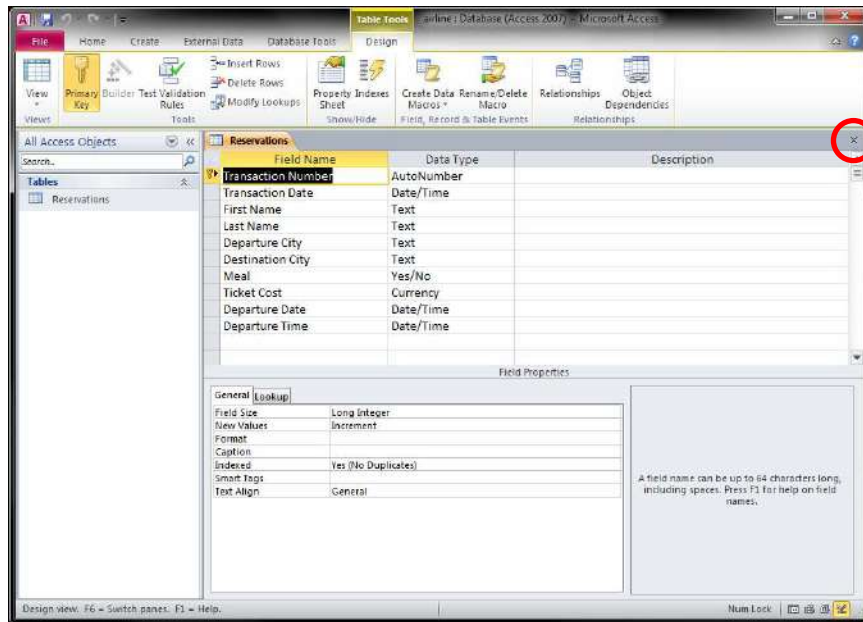


Figure 33 – Closing the Table

To open the table again, double-click the name of the table that you want to open. The name of the table will appear on the left area of the window (see *Figure 34*).

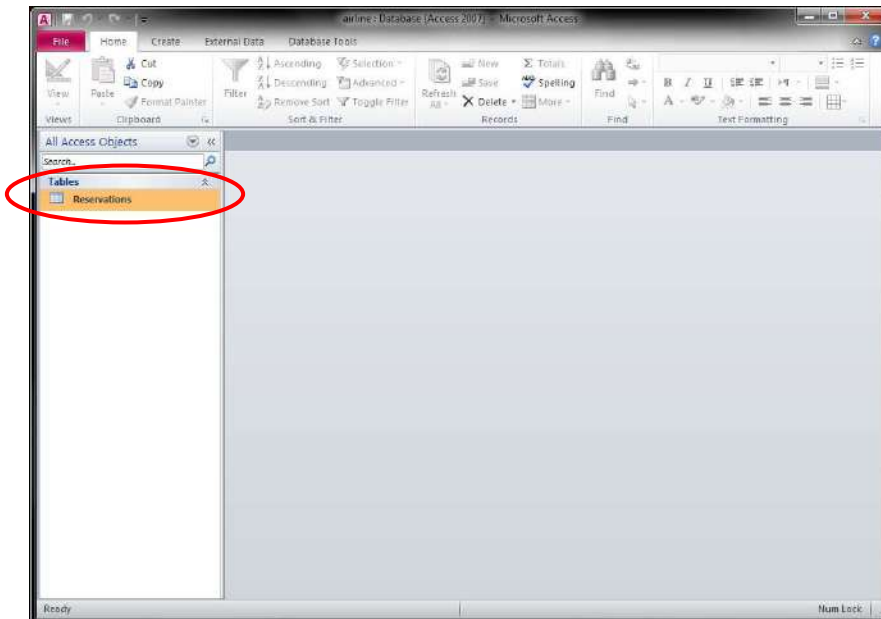


Figure 34 – Opening the Table

Forms

The following explains how to create and design forms in Access.

Create the Form

The following instructions explain how to create an interactive form that allows the user to effectively interact with the database.

1. From the *Create* tab, click *Form Design* (see *Figure 35*).

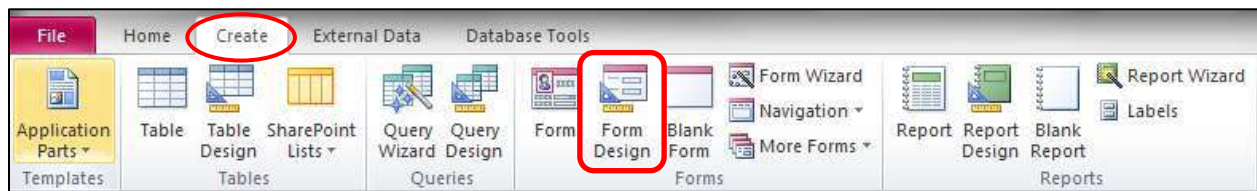


Figure 35 – Form Design

2. A blank form will appear on your screen (see *Figure 36*).

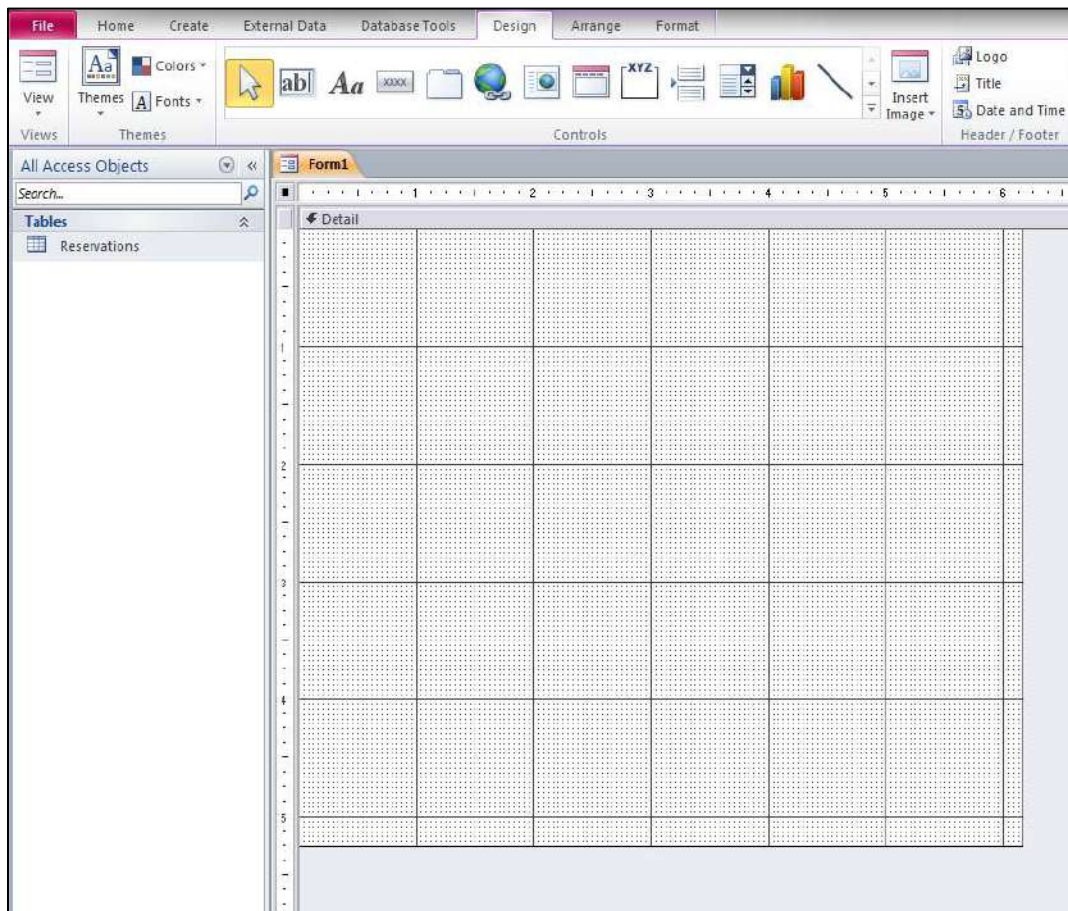


Figure 36 – Access Form

Form Properties

You create the form by using the *Property Sheet*. To see the Property Sheet, click the *Property Sheet* button on the *Design* tab (see *Figure 37*).

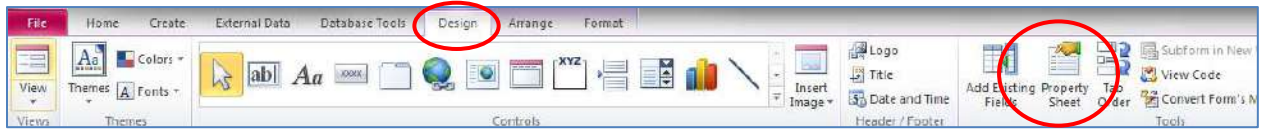


Figure 37 – Property Sheet

The Property Sheet will appear on the screen (see *Figure 38*) and provide you with many options allowing you to develop an effective form.

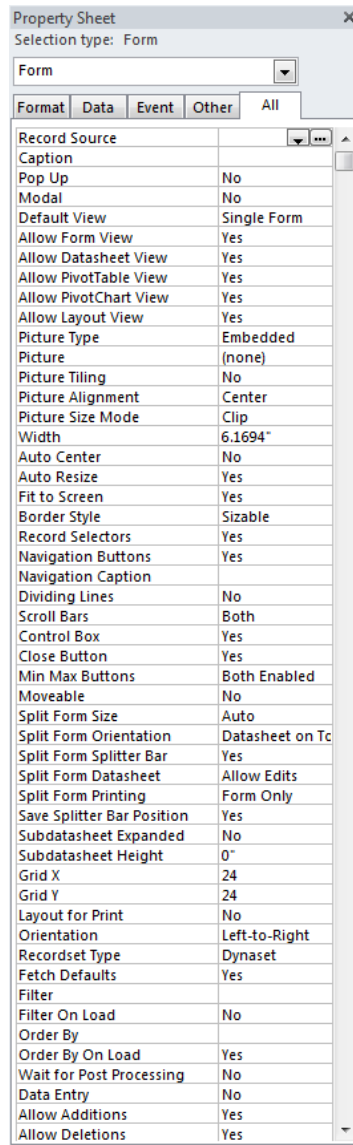


Figure 38 – Property Sheet

Changing the Color of a Form

The following explains how to change the color of a form.

1. Click the Form with your mouse so that it is the active object in Access (see *Figure 39*).

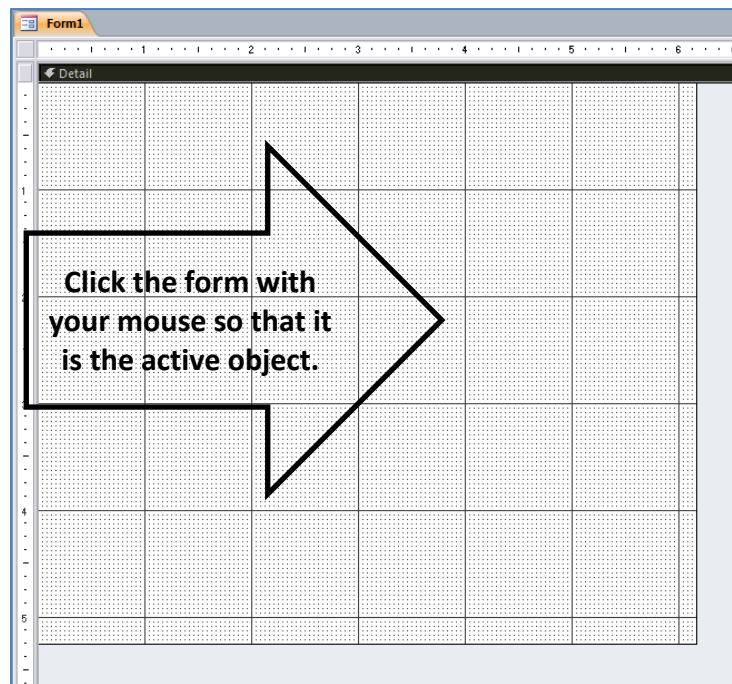


Figure 39 – Form

2. In the *Property Sheet*, click the *Format* tab (see *Figure 40*).

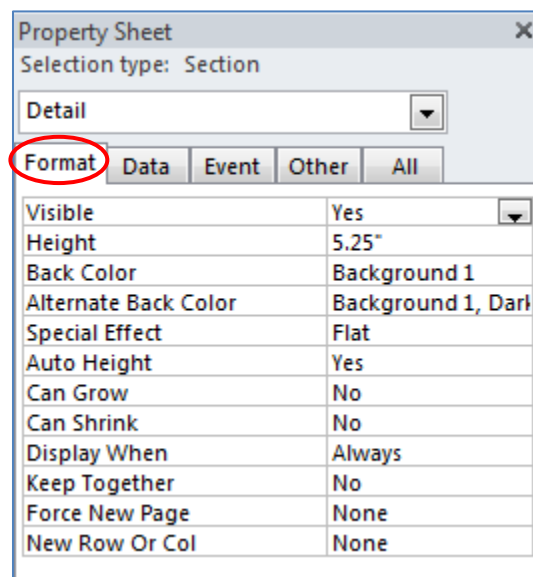


Figure 40 – Property Sheet

3. Click to select the right-column for Back Color on the Property Sheet (see *Figure 41*).

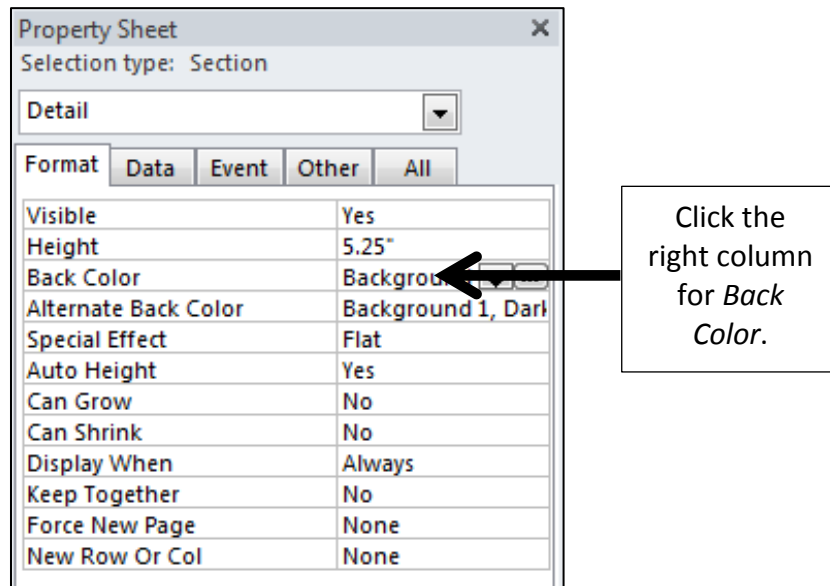


Figure 41 – Back Color

4. In the Property Sheet, for Back Color, click the  button (see *Figure 42*).

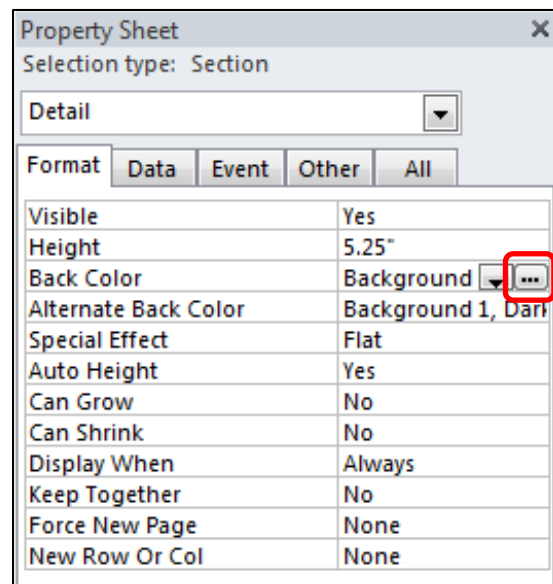


Figure 42 – Back Color

5. A window containing many colors will appear on your screen. Select the color that you want to apply to your form.

Drawing Labels

Labels allow you to create items such as banners on your form. The following explains how to add a banner to a form.

1. On the *Design* tab, click the *Label* button (see *Figure 43*).

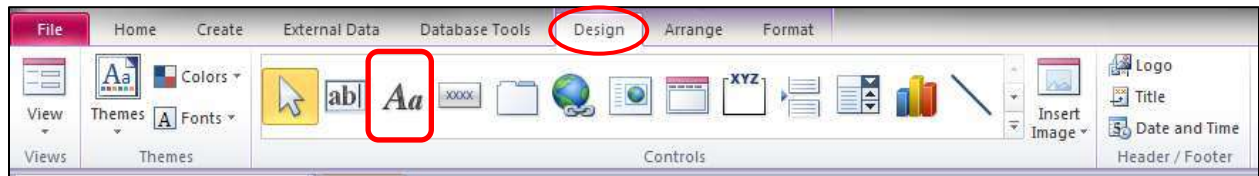


Figure 43 – Label Button

2. Draw a text box on the form (see *Figure 44*).

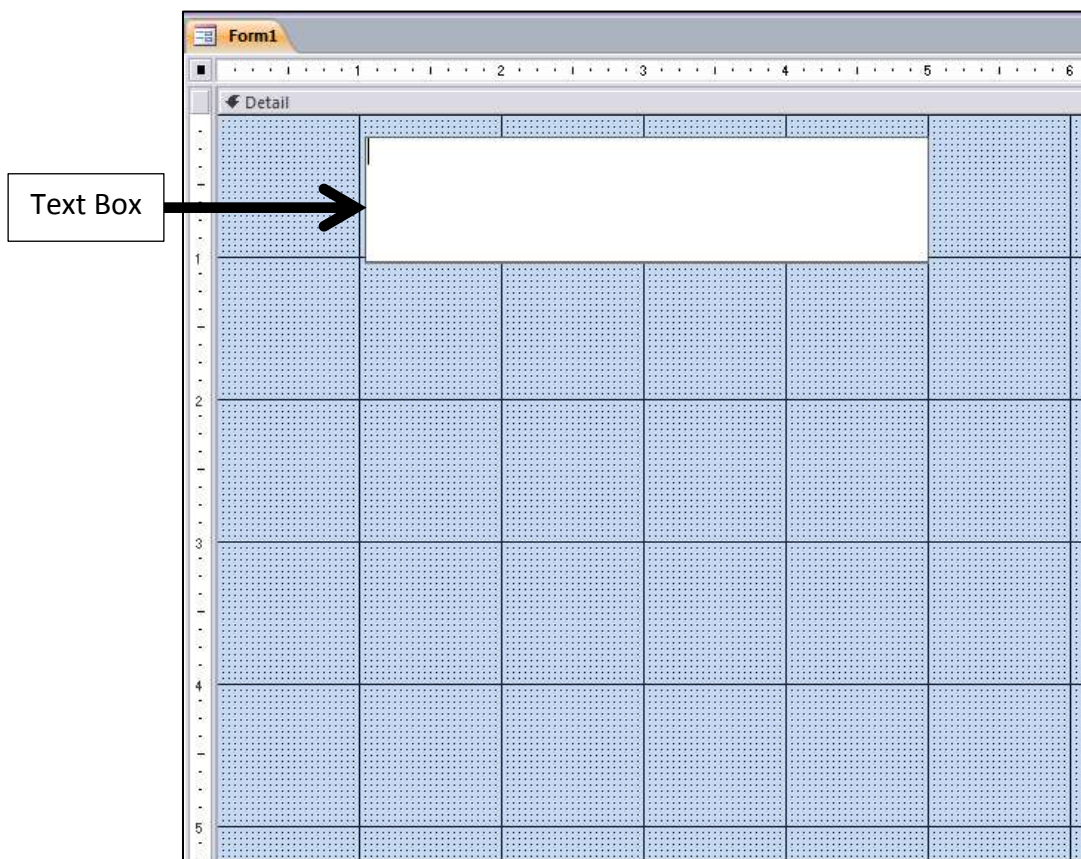


Figure 44 – Text Box

3. Type your text in the text box.
4. Select the text.
5. The text can be formatted from the *Text Formatting* area of the *Home* tab (see *Figure 45*).

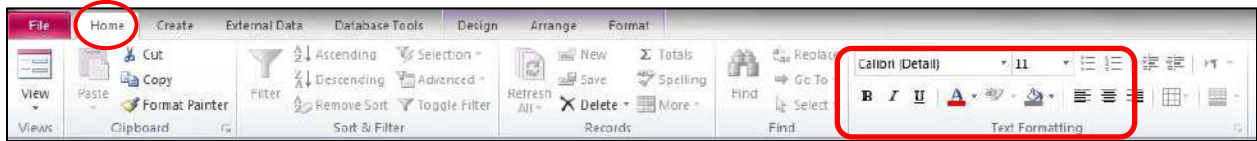


Figure 45 – Text Formatting

6. Click the form to deselect the text box.
7. Then, click the text box again to select it. When you allow your mouse pointer to hover over the edge of the text box (see *Figure 46*), you can hold your mouse button down and move the text box to the location of your choice on the form.

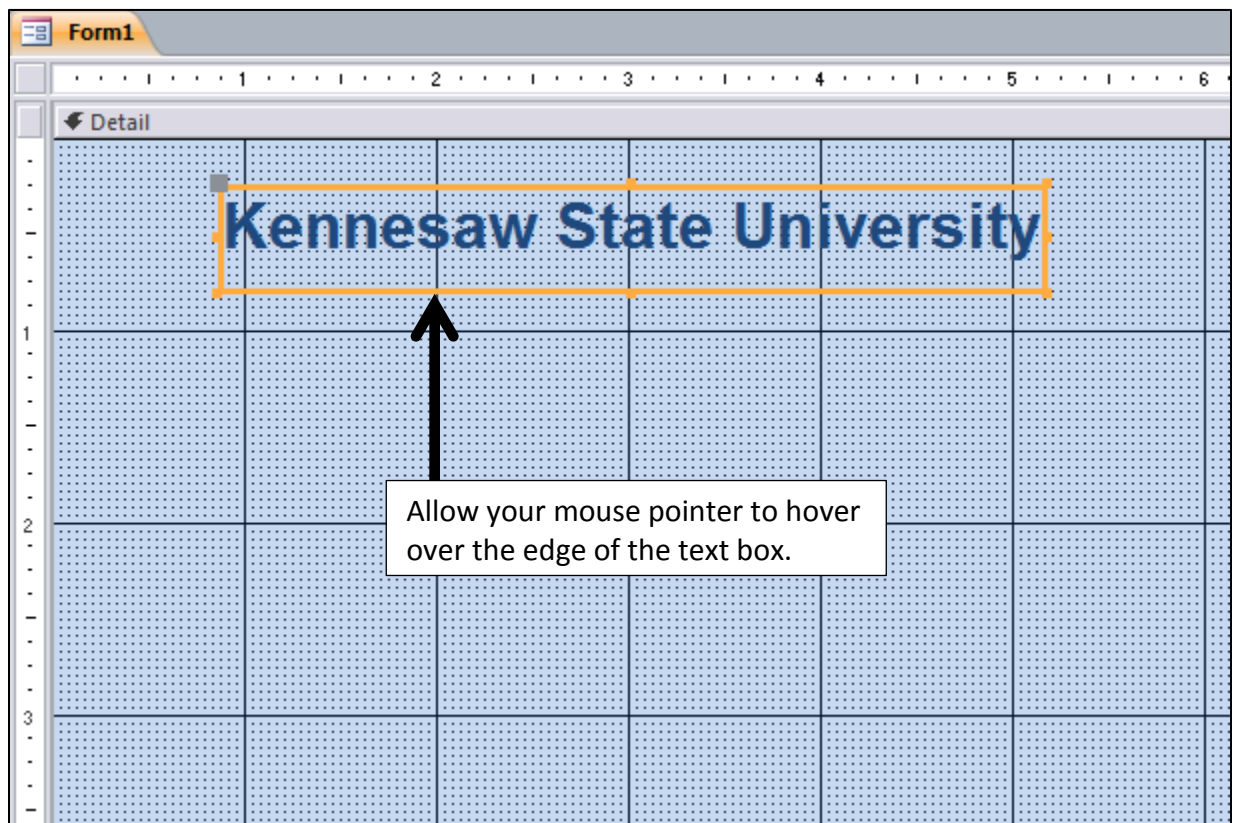


Figure 46 – Moving the Text Box

8. You can re-size the text box by allowing your mouse pointer to hover over an anchor point (see *Figure 47*), holding down your mouse button, and moving the mouse.

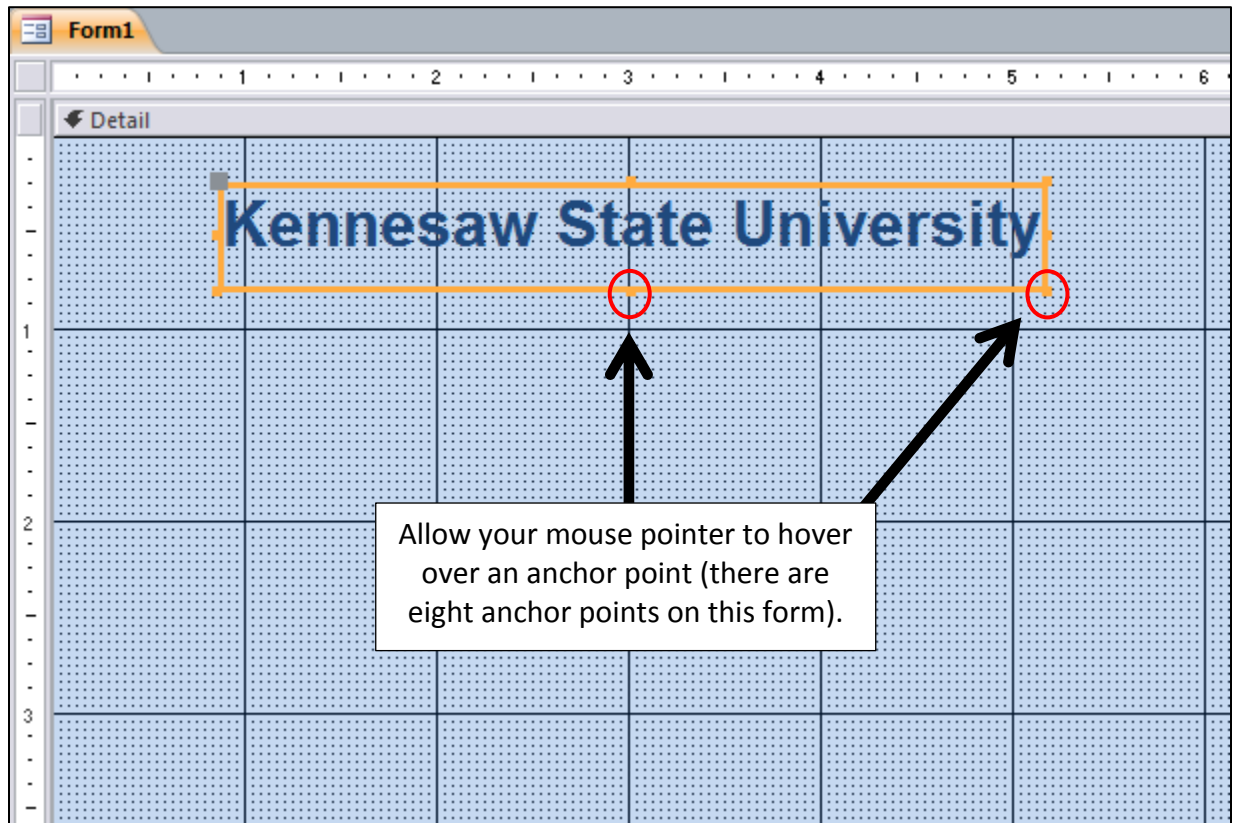


Figure 47 – Re-sizing the Text Box

Drawing Lines

Lines can be used as an organizational tool for the form. For example, lines can create different areas on the form. The following explains how to draw a line on the form.

1. Click the *Line* button (see *Figure 48*) from the *Design* tab.

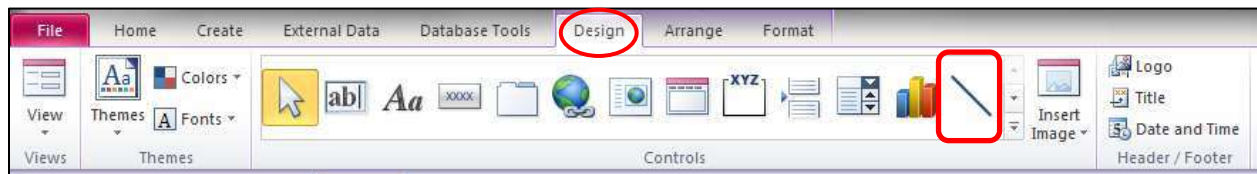


Figure 48 – Line tool

2. Allow your mouse pointer to hover over the form, hold down the mouse button, and move your mouse. This action will draw a line on the form.

3. Click to select the line.
4. In the Property Sheet, on the *Format* tab, you can adjust the width and color of the line (see *Figure 49*).

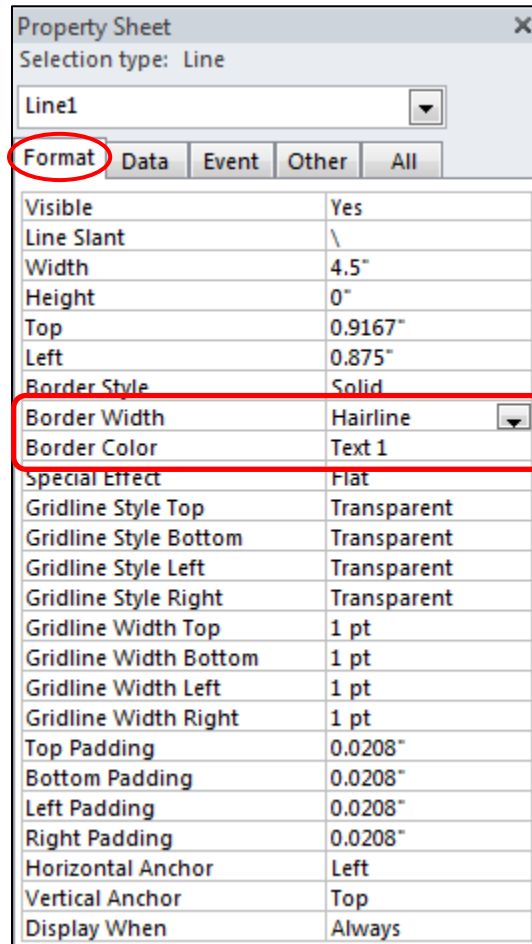


Figure 49 – Adjusting the width and color of a line

Adding Fields to the Form

The following explains how to add fields to the form.

1. If the *Property Sheet* is open, click the "X" in the upper-right area of the *Property Sheet* to close this window (see *Figure 50*).

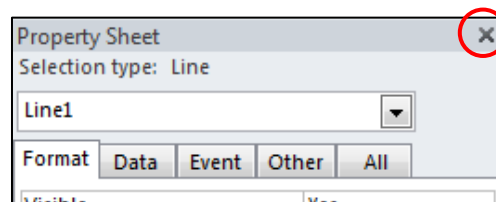


Figure 50 – Closing the Property Sheet

- From the *Design* tab, click the *Add Existing Fields* button (see *Figure 51*).



Figure 51 – Add Existing Fields

- The *Field List* window will appear. Click *Show all tables* (see *Figure 52*).



Figure 52 – Show all tables

- Click the "+" next to the name of your table that contains the fields that you want to add to your form (see *Figure 53*).

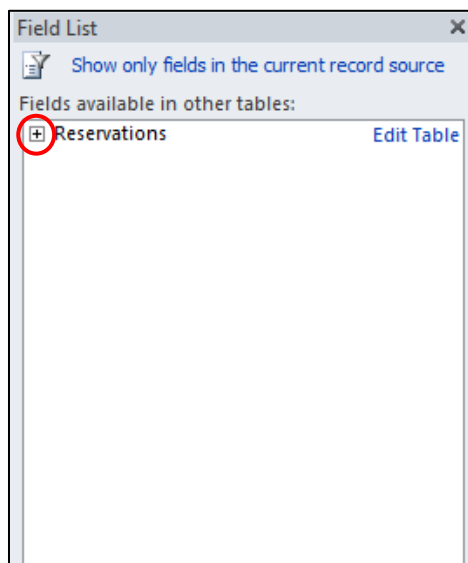


Figure 53 – Adding Fields

5. Move the fields from the *Field List* window to the *Form* (see *Figure 54*) by following the instructions below.
 - a. Allow your mouse pointer to hover over the name of the field in the *Field List* window that you want to place on the form.
 - b. Press and hold down your mouse button. With the mouse button pressed down, move the field to the form.
 - c. When the field is over the form, release your mouse button and the field will be added to the form.

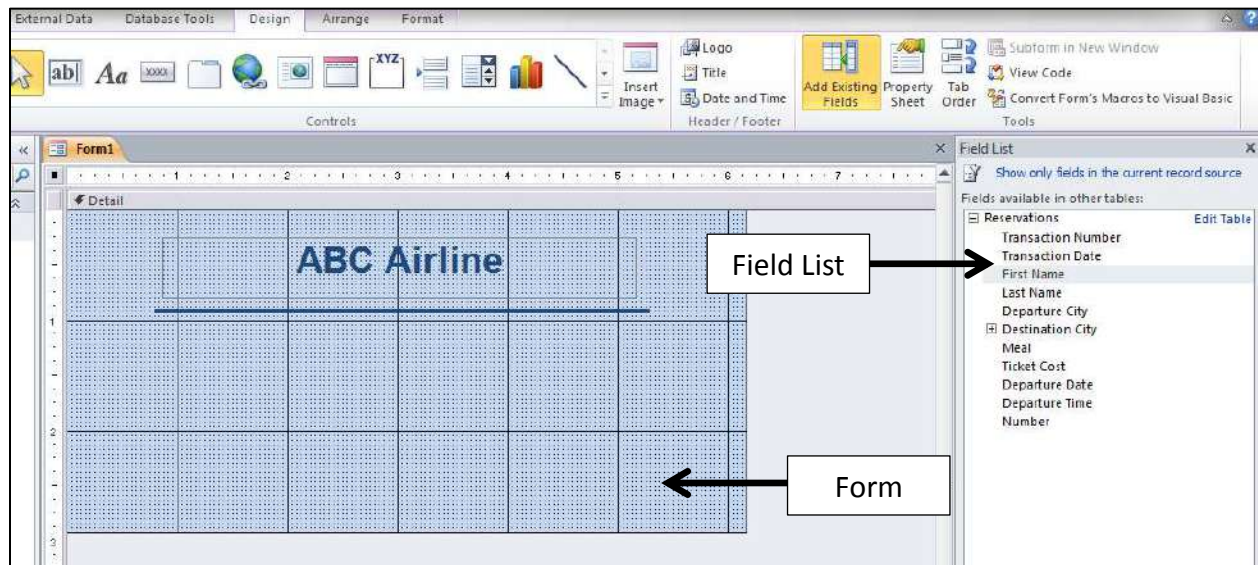


Figure 54 – Adding Fields

Arranging Fields on the Form

The following instructions explain how to quickly arrange the fields on the form.

1. Select all of the fields that you want to arrange on the form. To select all of the fields, follow the instructions below.
 - a. On the form, allow your mouse pointer to hover over the upper-left area where your fields are located.
 - b. Press and hold down your mouse button.
 - c. As you move your mouse button towards the fields, you can draw a selection box to select all of the fields.
 - d. When you release the mouse button, all of the fields that were contained in the selection box will be selected.

2. From the *Arrange* tab, click *Stacked* (see *Figure 55*).

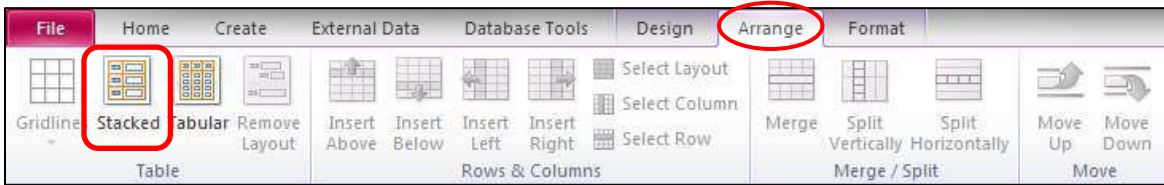


Figure 55 – Stacked Button

3. Click the *Remove Layout* button (see *Figure 56*).

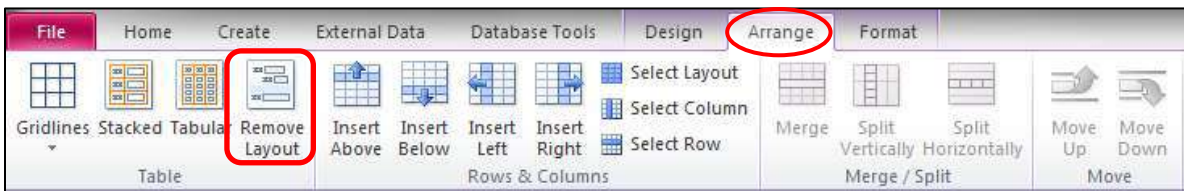


Figure 56 – Remove Layout Button

4. The fields will be neatly arranged on the form (see *Figure 57*).

Figure 57 – Fields on the Form

Removing a Tab Stop for a Field

The following explains how to remove a tab stop for a field. As an example, in *Figure 58*, *Transaction Number* is defined as an auto-number. Therefore, no input is required from the user. For this reason, the tab stop for this field will be removed.

The screenshot shows a Microsoft Access form in Design view. The form is titled 'Form1' and has a 'Detail' section. The form contains several fields: 'Transaction Number' (highlighted with a red box), 'Transaction Date', 'First Name', 'Last Name', 'Departure City', 'Destination City', 'Meal', 'Ticket Cost', 'Departure Date', 'Departure Time', and 'Number'. The 'Transaction Number' field is an auto-number field, and its tab stop is being removed.

Figure 58 – Fields on the Form

1. From the *Design* tab, click *Property Sheet* (see *Figure 59*).



Figure 59 – Property Sheet

- Click to select the text box for *Transaction Number* (see Figure 60).

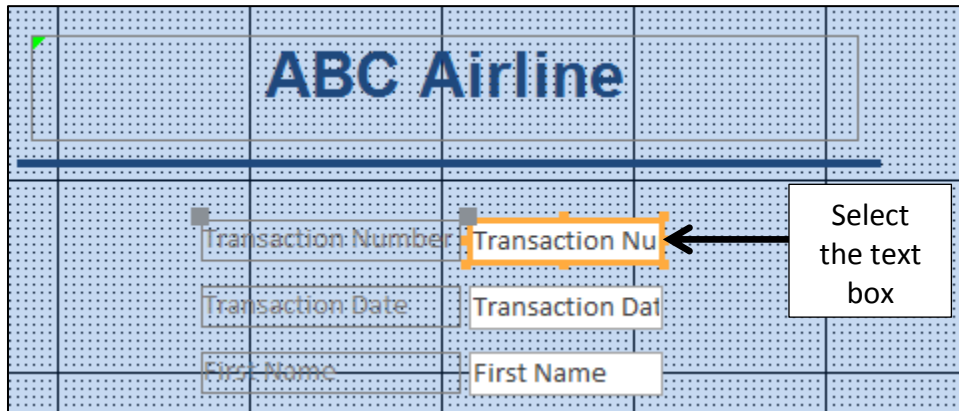


Figure 60 – Select the Text Box

- In the *Property Sheet*, click the *Other* tab (see Figure 61).
- In the *Property Sheet*, for *Tab Stop*, click to change *Yes* to *No* (see Figure 61).

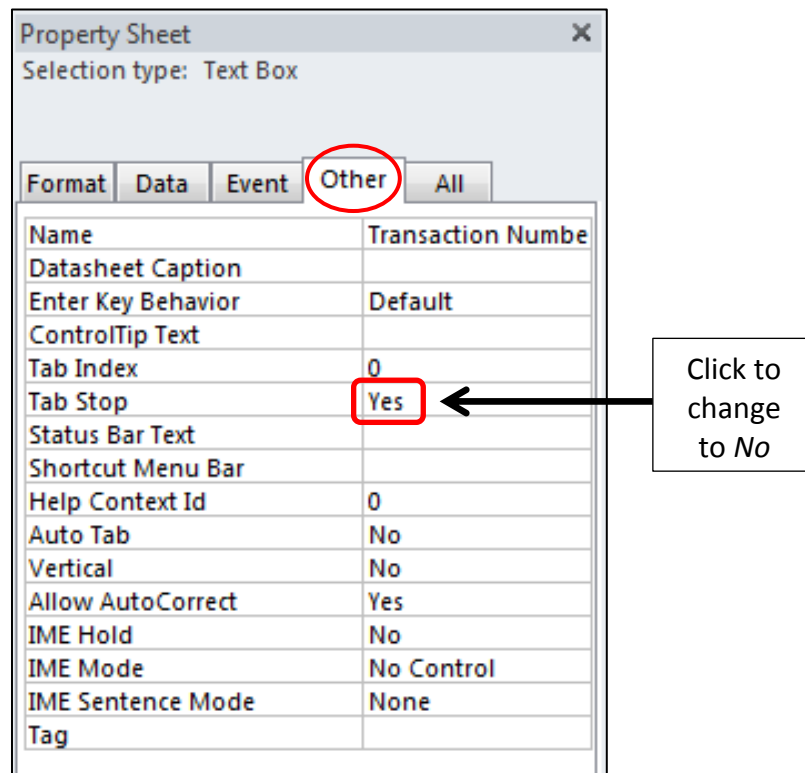


Figure 61 – Property Sheet

Changing the Tab Order

The following explains how change the tab order for a form.

1. From the *Design* tab, click *Tab Order* (see *Figure 62*).

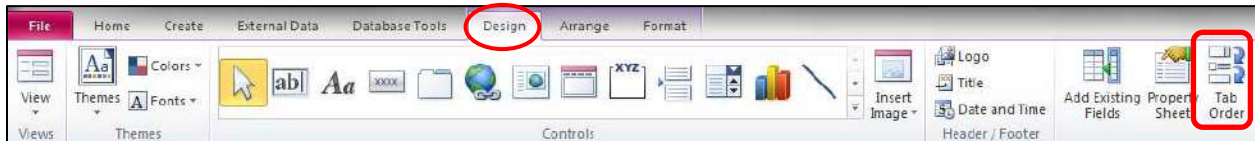


Figure 62 – Tab Order

2. The *Tab Order* dialogue box will appear (see *Figure 63*).
3. Click to the *Left* of the field name to select the field where you want to adjust the order (see *Figure 63*).
4. After the field name is selected, click to the left of the field name and hold down your mouse button. As your mouse button is pressed down, move the field to re-arrange the tab order in the window.
5. When you have re-arranged the tab order, click the OK button to close the window.

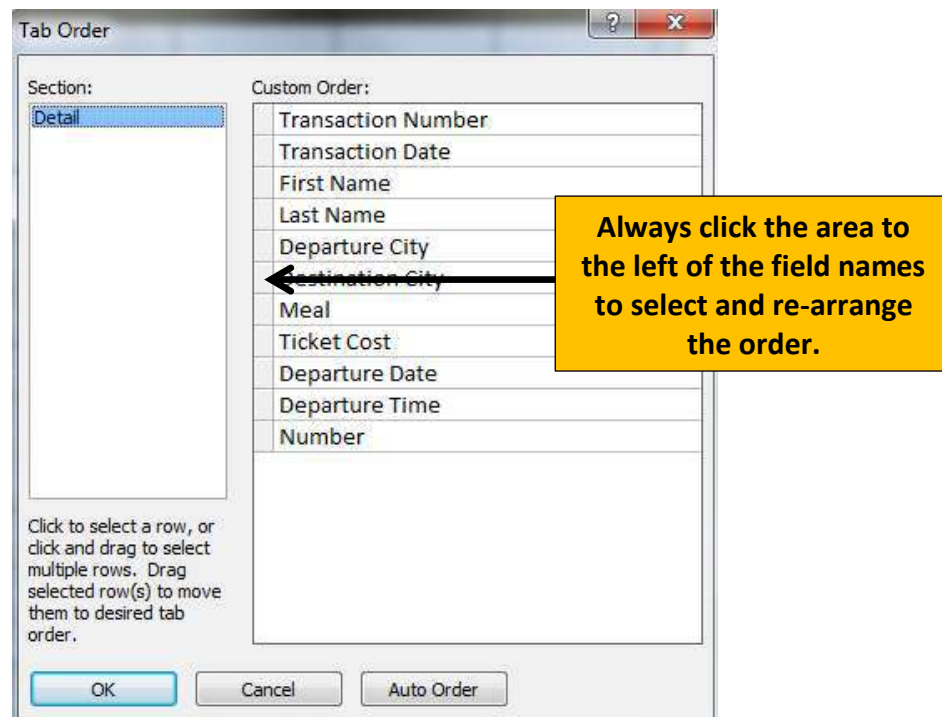


Figure 63 – Tab Order

Entering Data in the Form

The following explains how to enter data in the form.

1. From the *Design* tab, click *View* (see *Figure 64*).

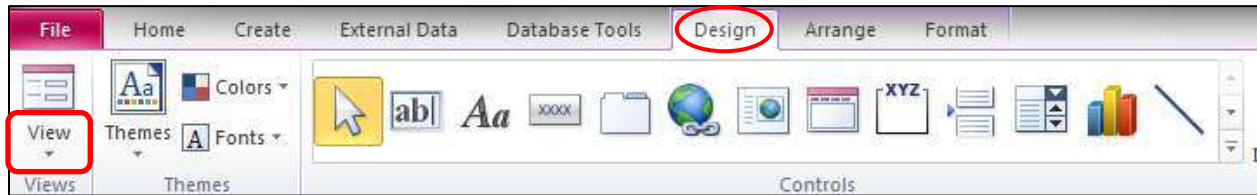


Figure 64 – View Button

2. From the menu that appears, select *Form View*.
3. You can now enter data into the various text boxes on the form.
 - a. Press the tab key to go to the next field.
 - b. Press shift + tab to go to the previous field.
4. When you have entered data into all of the fields on the form, press the tab key and you will go to the next record where you can enter more data.
5. The following instructions explain how to return to the *Design* view so that you can make adjustments to the layout and design of the form.
 - a. From the *Home* tab, click the *View* button (see *Figure 65*).
 - b. From the menu that appears, select *Design View*.

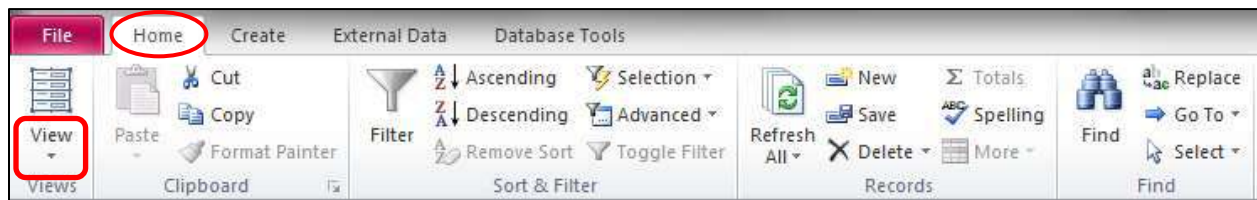


Figure 65 – View Button

Saving the Form

The following explains how to save the form.

1. Click the *File* tab (see *Figure 66*).

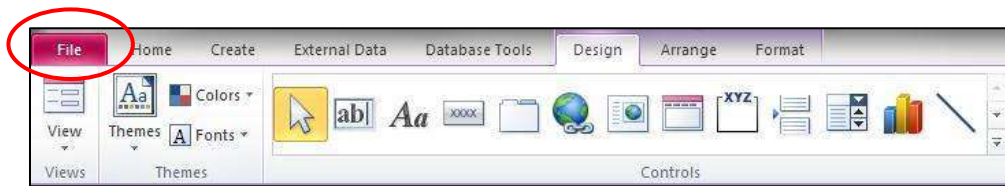


Figure 66 – File tab

- From the menu that appears, click *Save* (see *Figure 67*).

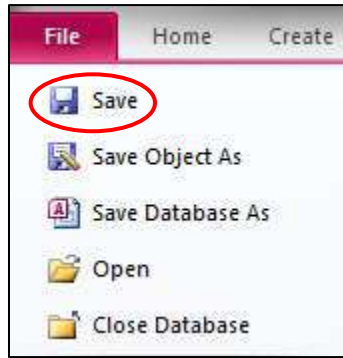


Figure 67 – Save Button

- In the next window that appears, enter a filename and click the *OK* button. It may help you stay organized if you name the form the same name as the table that the form is associated with.
- To close the form, click the “X” in the upper-right area of the form (see *Figure 68*).

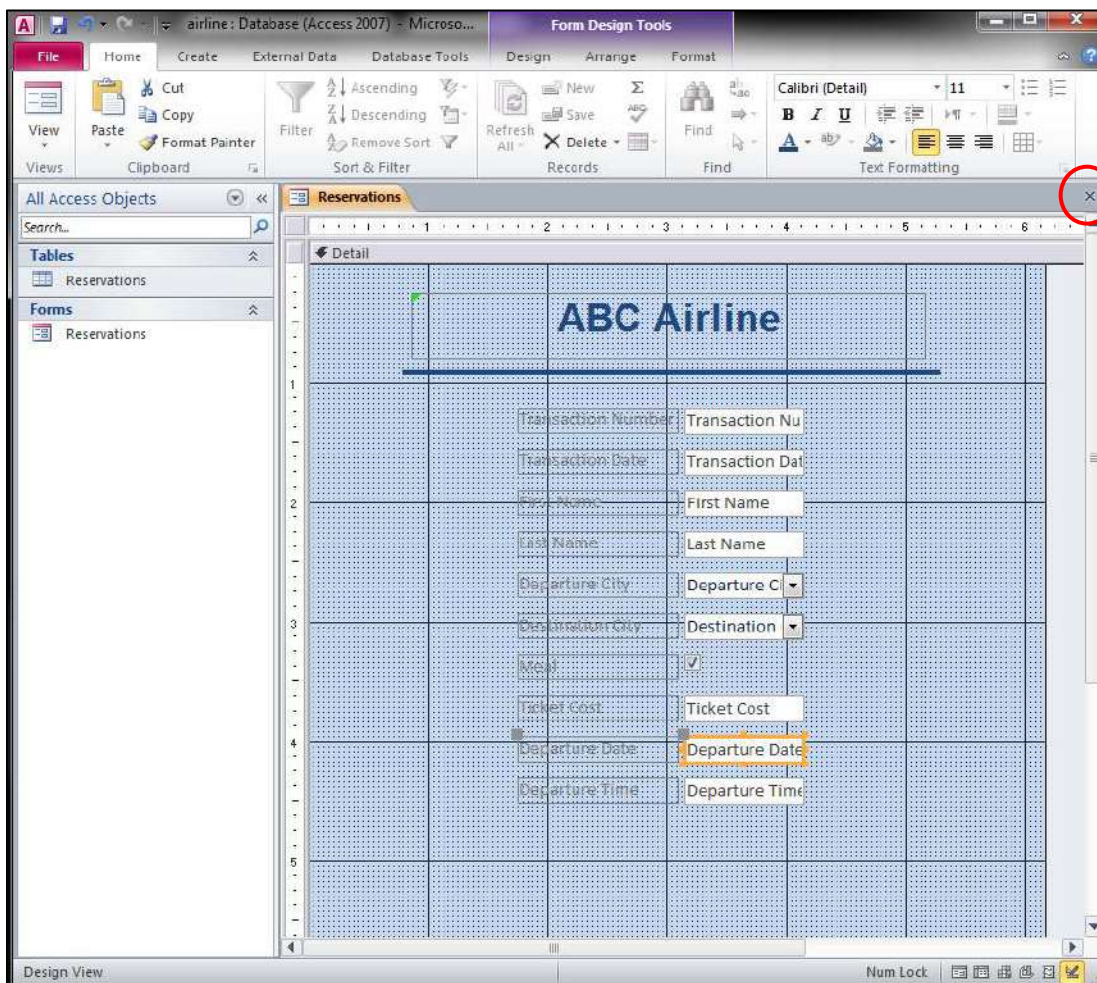


Figure 68 – Closing the Form

5. To open the form again, double-click the form name (see *Figure 69*).

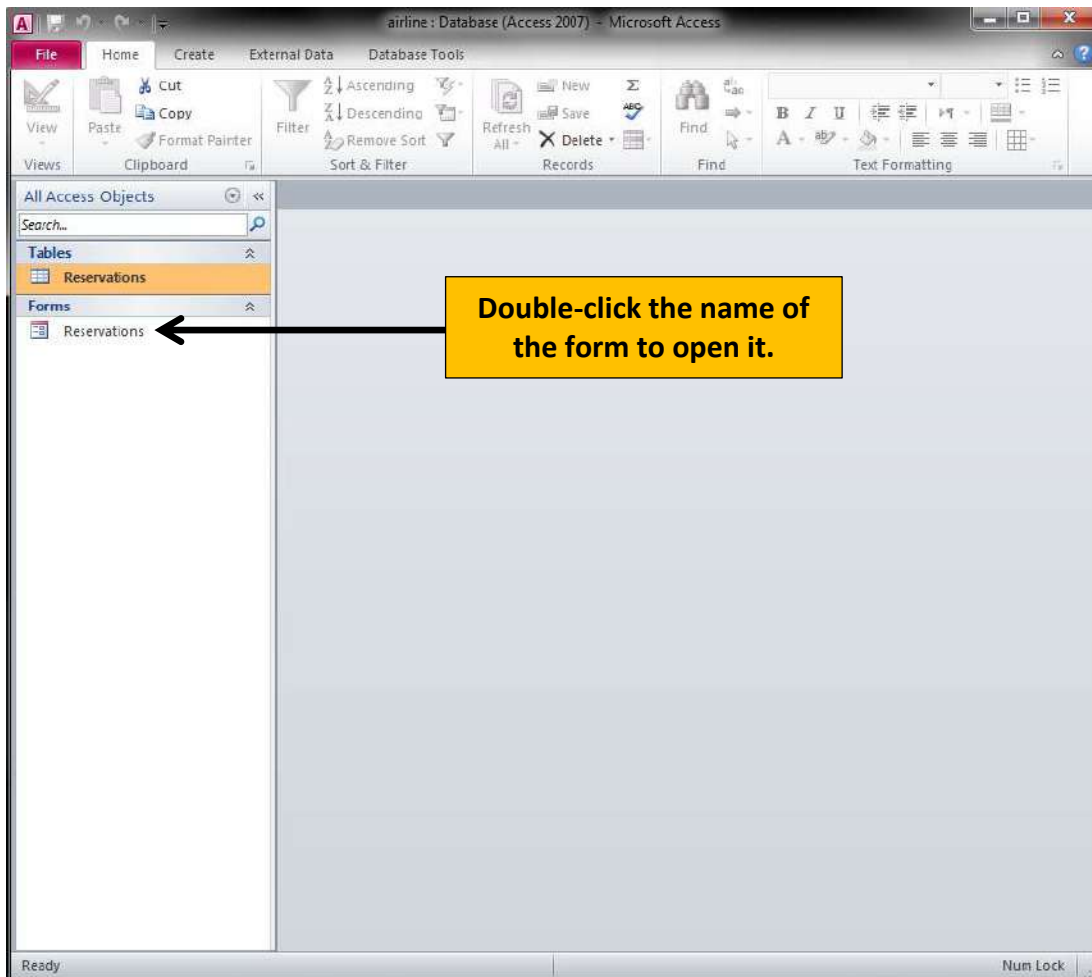


Figure 69 – Opening the Form

6. The following instructions explain how to return to the *Design* view so that you can make adjustments to the layout and design of the form.
- From the *Home* tab, click the *View* button (see *Figure 70*).
 - From the menu that appears, select *Design View*.

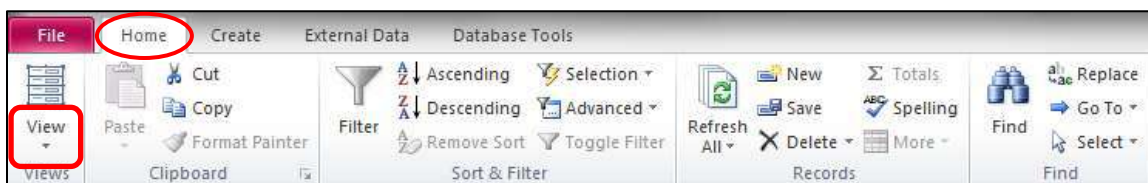


Figure 70 – View Button

Moving Between Records on the Form

To move between records on the form, use the controls at the bottom-left of the window (see Figure 71).

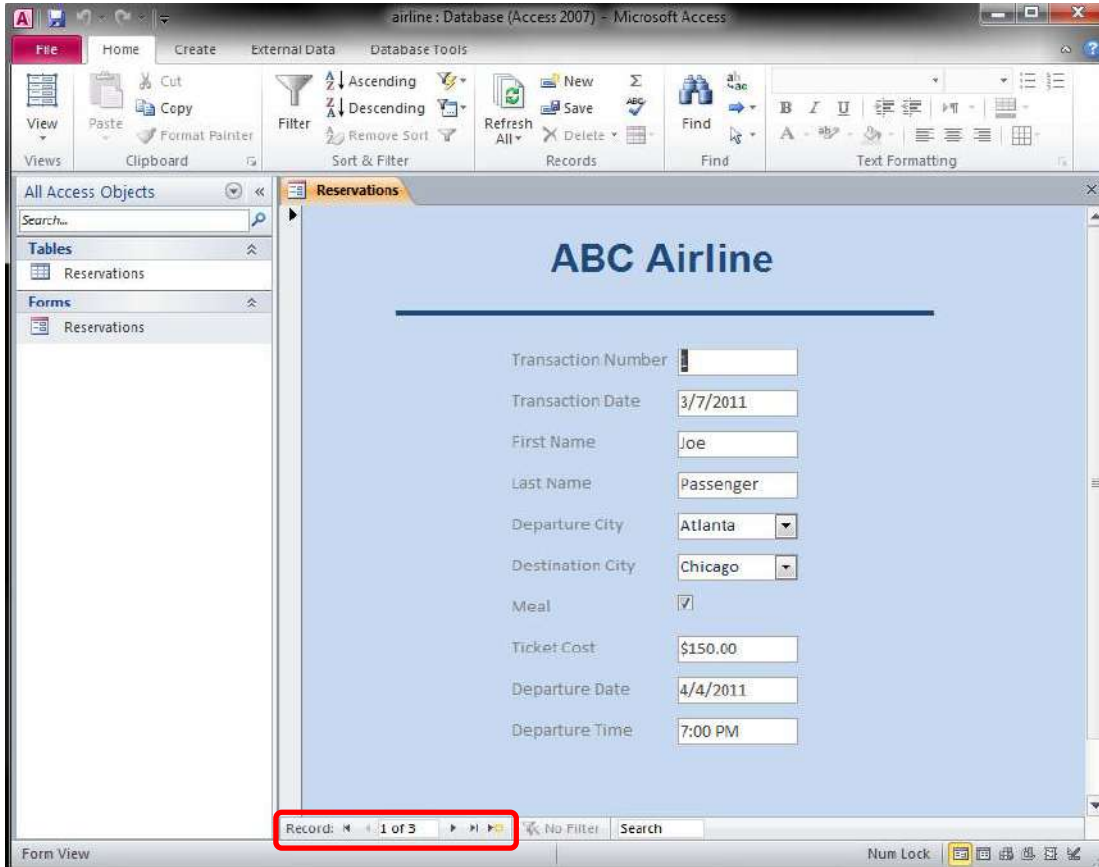


Figure 71 – Navigational Buttons

Figure 72 explains the purpose of each navigational button.

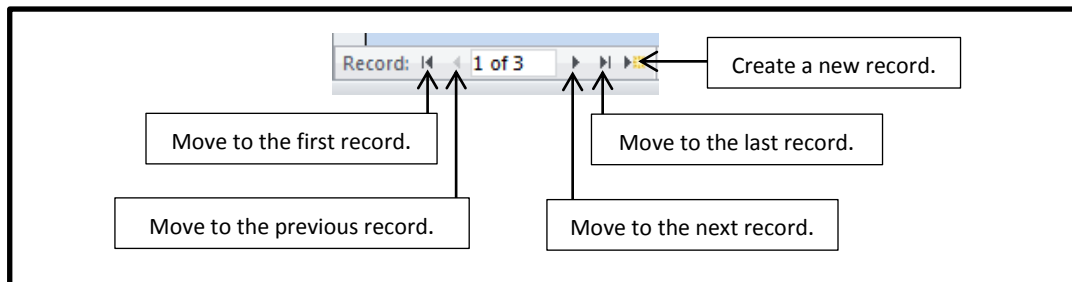


Figure 72 – Navigational Buttons

Searching for a Record

The following explains how to search for a record in Access.

1. Place the cursor in the field where you are searching for a match. For example, in *Figure 73*, if you were searching for a person's last name, you would place the cursor in the text box for last name.

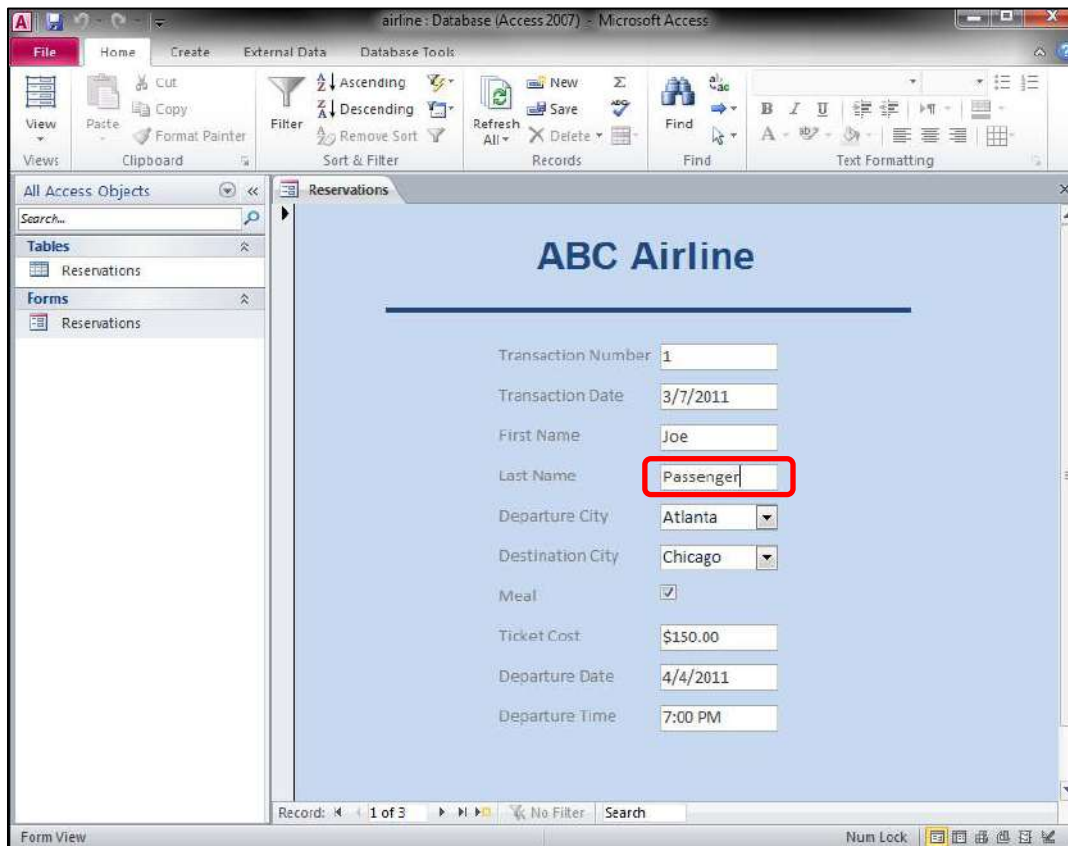


Figure 73 – Record Searches

2. Next, on the *Home* tab, click the *Find* button (see *Figure 74*).

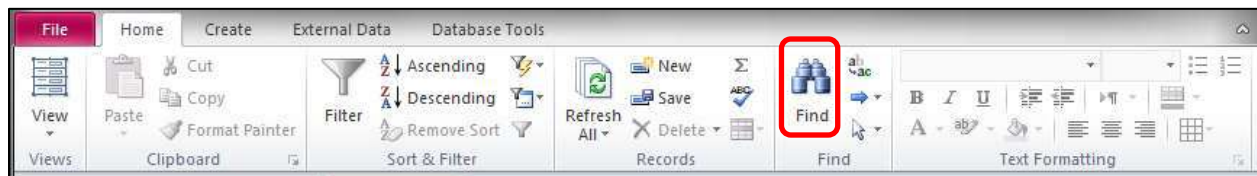


Figure 74 – Find Button

3. In the window that appears, enter item that you are searching for (last name) and click the *Find Next* button (see *Figure 75*).

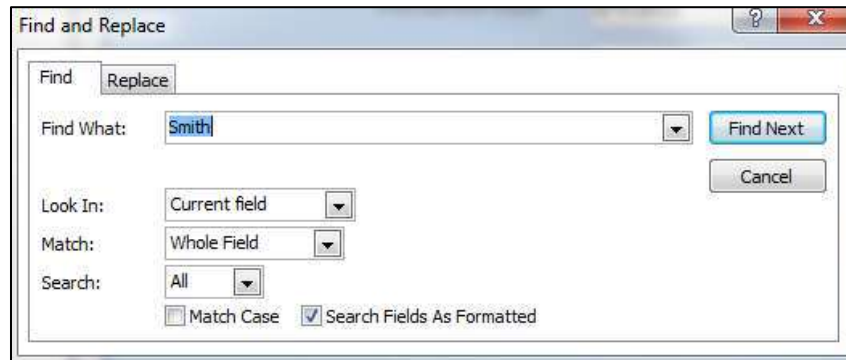


Figure 75 – Search Window

4. The item that you are searching for will appear on the form. Click the *Find Next* button to go to the next match; when there are no more matches, a message will appear indicating the search item was not found.

Applying a Filter with Access

The following explains how to apply a filter in Access.

1. Place your cursor in the field that you want to filter. For example, in *Figure 76*, if you wanted to only see flights destined for Chicago, you would place your cursor in the *Destination City* field.

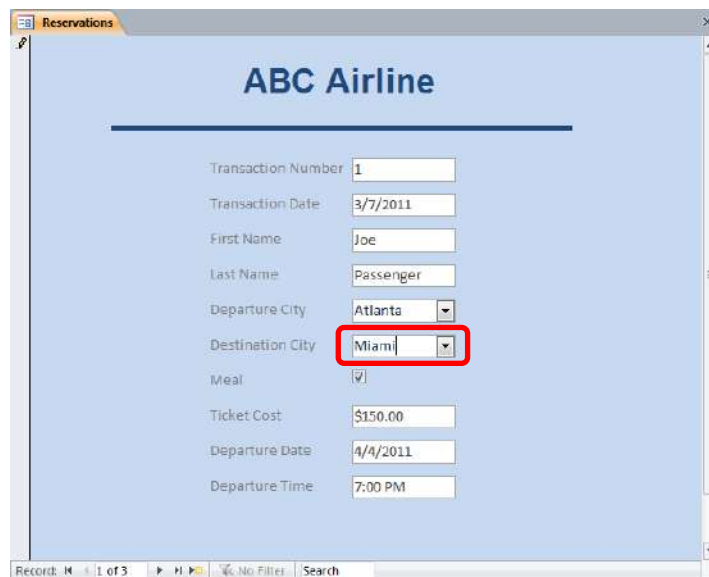


Figure 76 – Filtering Records

- From the *Home* tab, click the *Filter* button (see *Figure 77*).

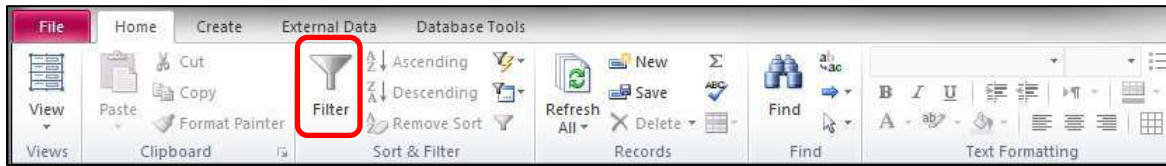


Figure 77 – Filter Button

- In the menu that appears, remove all of the check-marks except for the one for Chicago (see *Figure 78*) and the click the *OK* button.

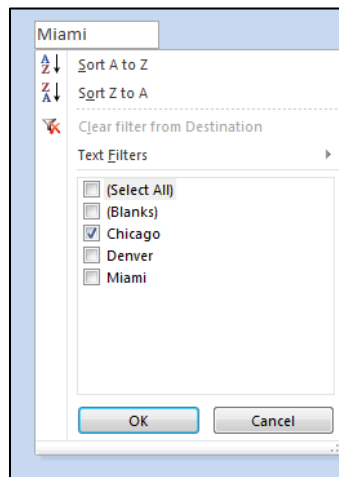


Figure 78 – Filter

- As you navigate through the records, you will only see the records destined for Chicago.
- To remove the filter so that you can see the other records again, click the *Filtered* button (see *Figure 79*) at the bottom-left area of the window.

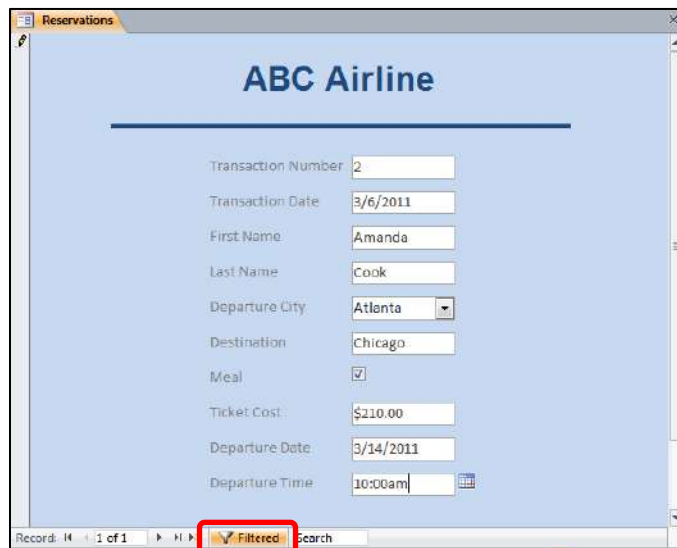


Figure 79 – Remove Filter Button

Attaching Photos to a Record

In many situations, it is helpful to attach a photo to a record. The following explains how to attach a photo to a record.

1. When you create the Photo record in the table, allow the data type to be defined as an *Attachment* (see *Figure 80*).

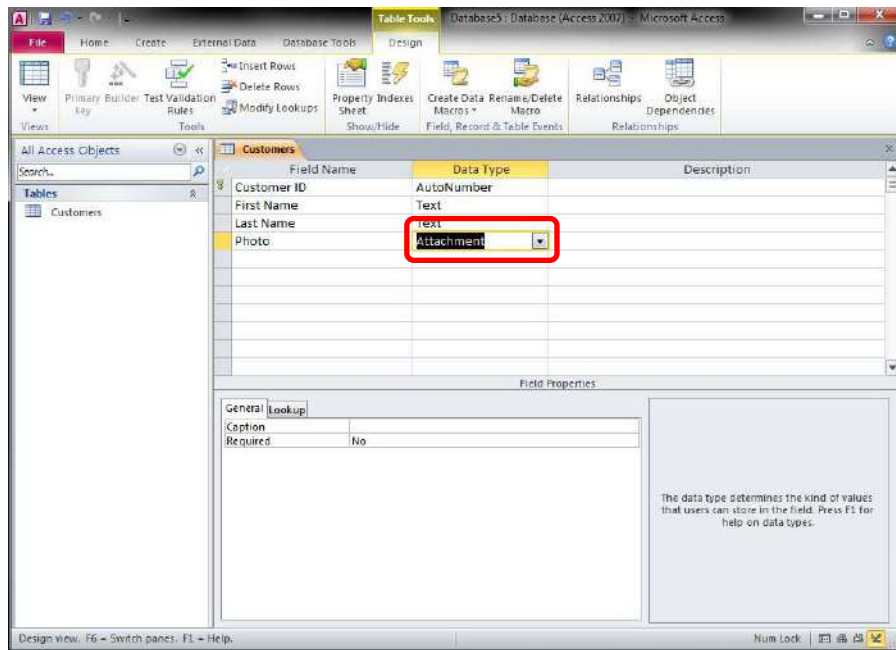


Figure 80 – Attachments

2. Place the photo field on the form. Make certain the area that will contain the photo is large enough to see the image (see *Figure 81*).

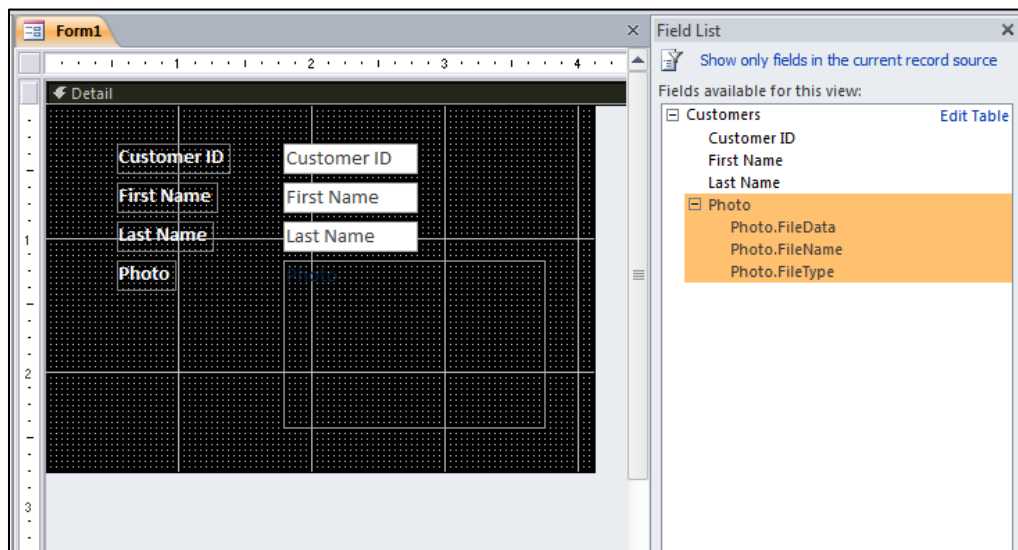


Figure 81 – Photos

3. Once the form is complete and you are entering the data for the record, do the following to attach the photo to the record:
 - a. Double-click inside of the box for the photo field (see *Figure 82*).
 - b. The *Attachments* window will appear on the screen. Click the *Add* button.
 - c. Browse for the photo on your computer. When you select the photo, click the *Open* button.
 - d. You will now return to the *Attachments* window. Click the *OK* button.

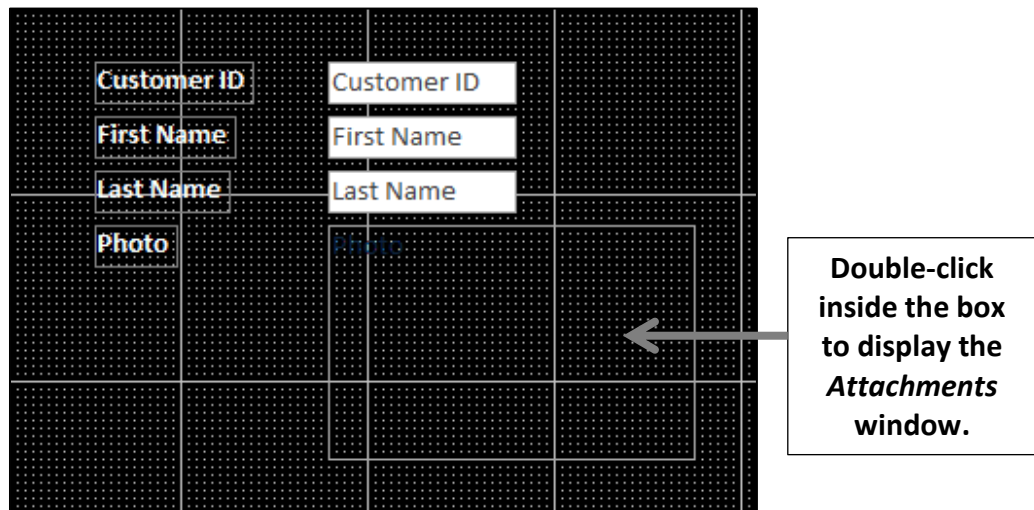


Figure 82 – Attaching Photos to Records

Creating Calculated Fields

When performing calculations in Access, the calculations are created on the form. The following explains how a *Total* field could be created for *Figure 83* that would display the total sales for *Store 1* and *Store 2*.

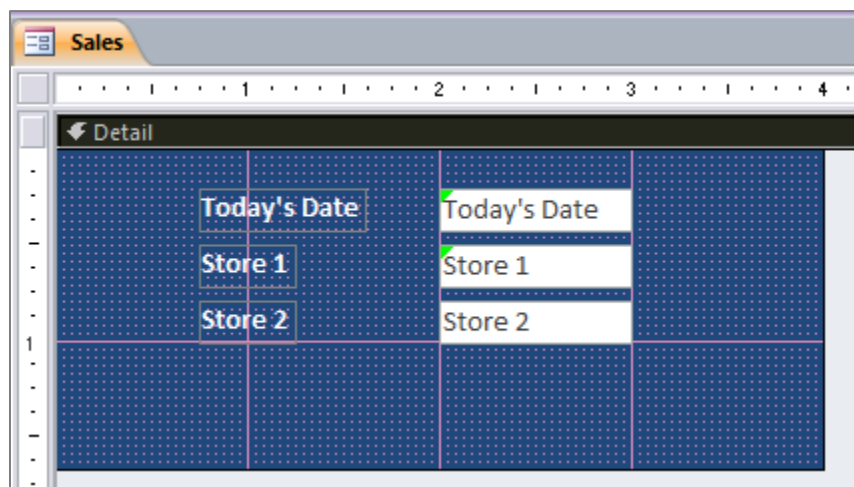


Figure 83 – Calculated Fields

1. Insert a text box onto the form by clicking the *Text Box* button (see *Figure 84*).

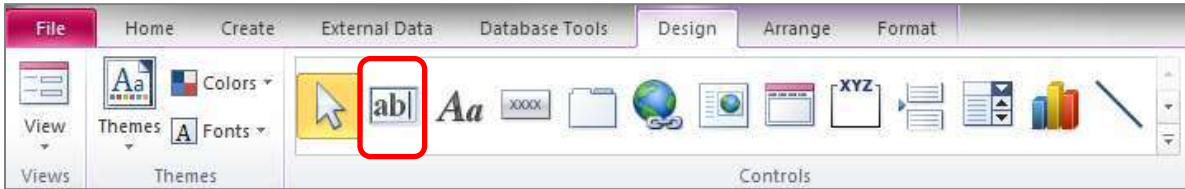


Figure 84 – Text Box Button

2. Draw the text box on the form (see *Figure 85*).

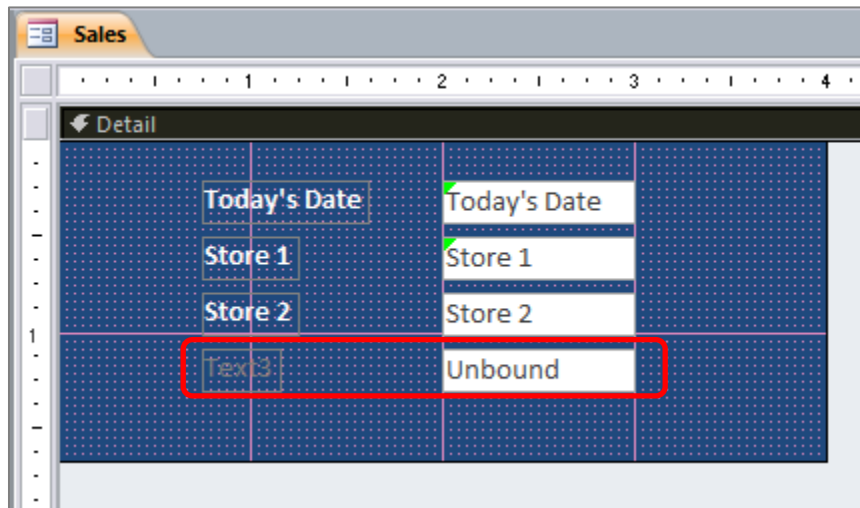


Figure 85 – Text Box

3. Click to select the label (see *Figure 86*). Then, enter descriptive text for the field. Also, format the text box to match the other text boxes on the form.

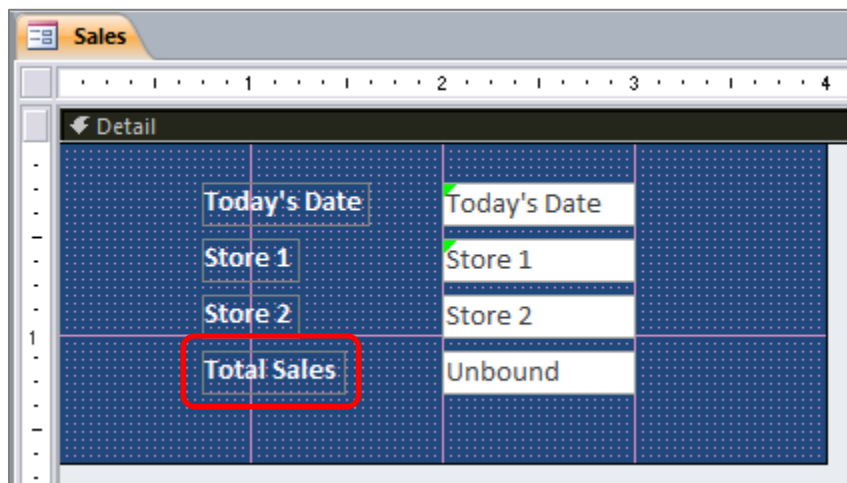


Figure 86 – Labels

- From the *Design* tab, click the *Property Sheet* button (see *Figure 87*).



Figure 87 – Property Sheet Button

- Click to select the text box (see *Figure 88*) that you added in *Step 2*.

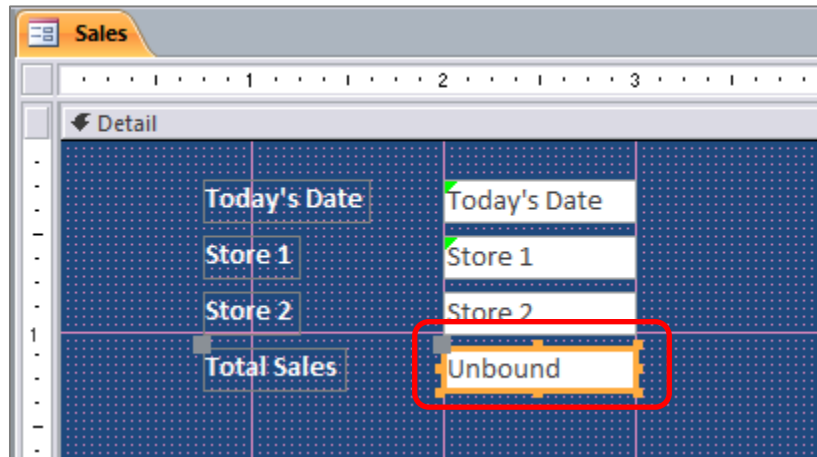


Figure 88 – Property Sheet Button

- In the *Property Sheet*, click the *Other* tab. For *Name*, give a meaningful name to the selected text box. For this example, *Total Sales* was entered (see *Figure 89*).

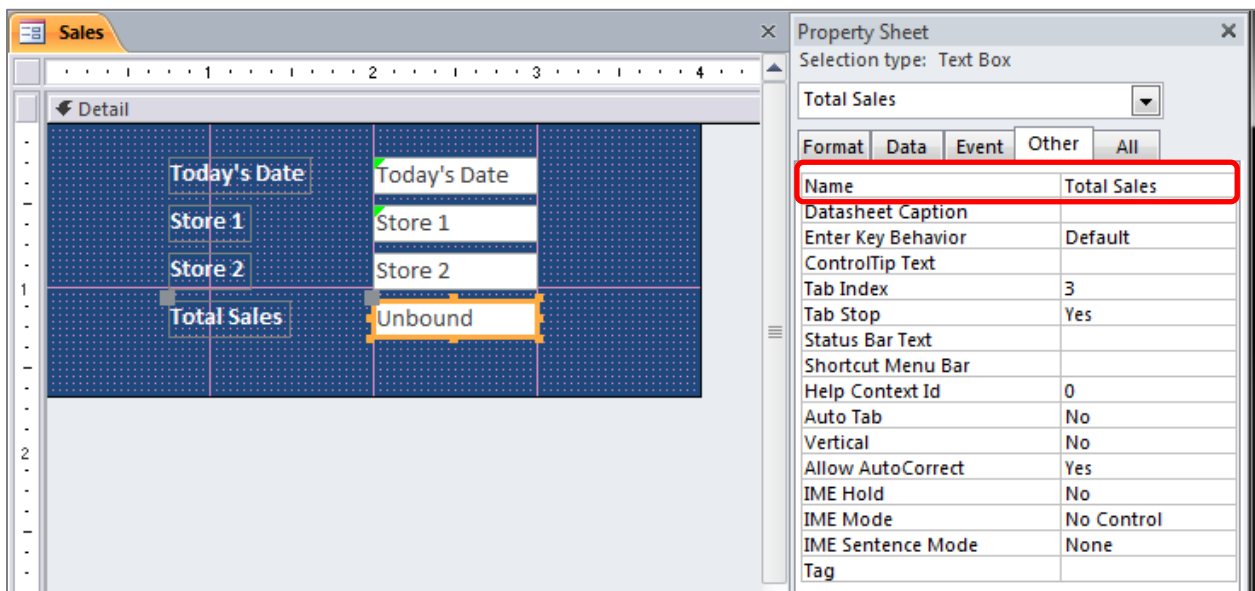



Figure 89 – Name

7. In the *Property Sheet*, click the *Data* tab. For *Control Source*, click the  button (see *Figure 90*).

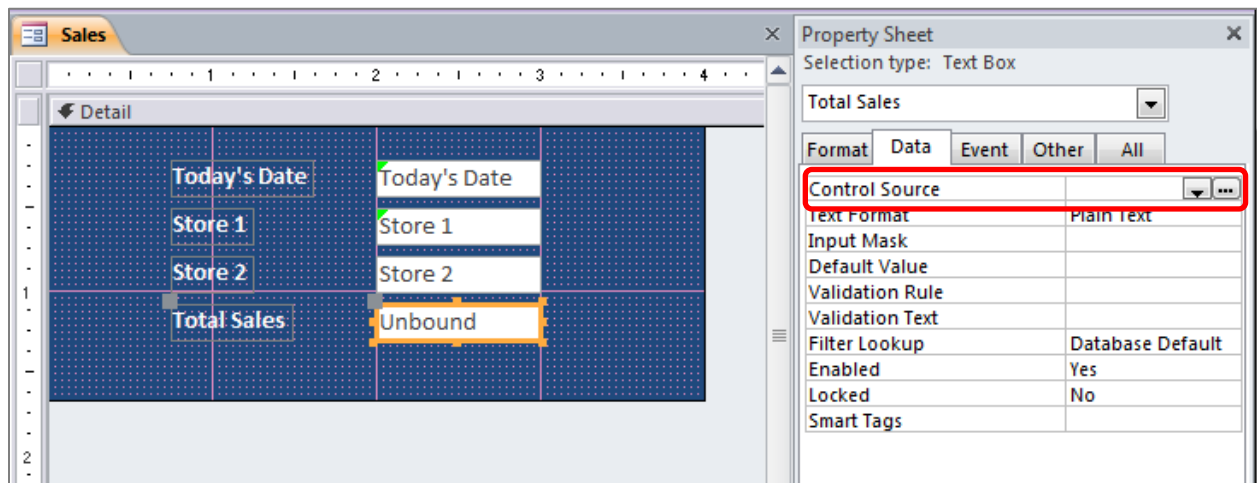


Figure 90 – Control Source

8. The *Expression Builder* will appear. Enter the formula into the Expression Builder. The following will help you to build formulas:
 - a. Always begin a formula with the following: =
 - b. You will find your fields that are used on the form listed in the *Expression Categories* area (see *Figure 91*). Double-click these fields to add them to the *Expression Builder*.
 - c. Click the *OK* button when you are done building the formula.

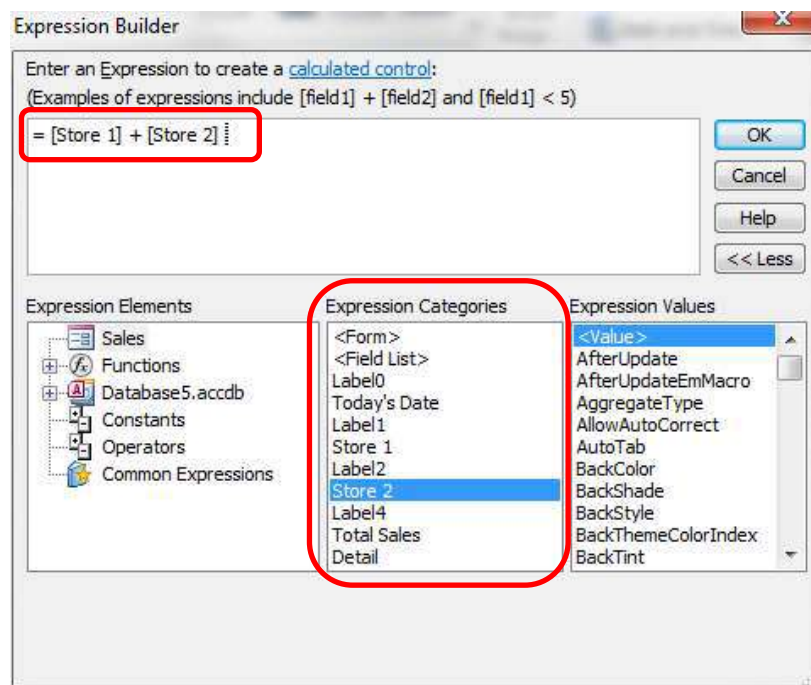


Figure 91 – Expression Builder

9. Click the *Format* tab (see *Figure 92*). Select the format of your choice.

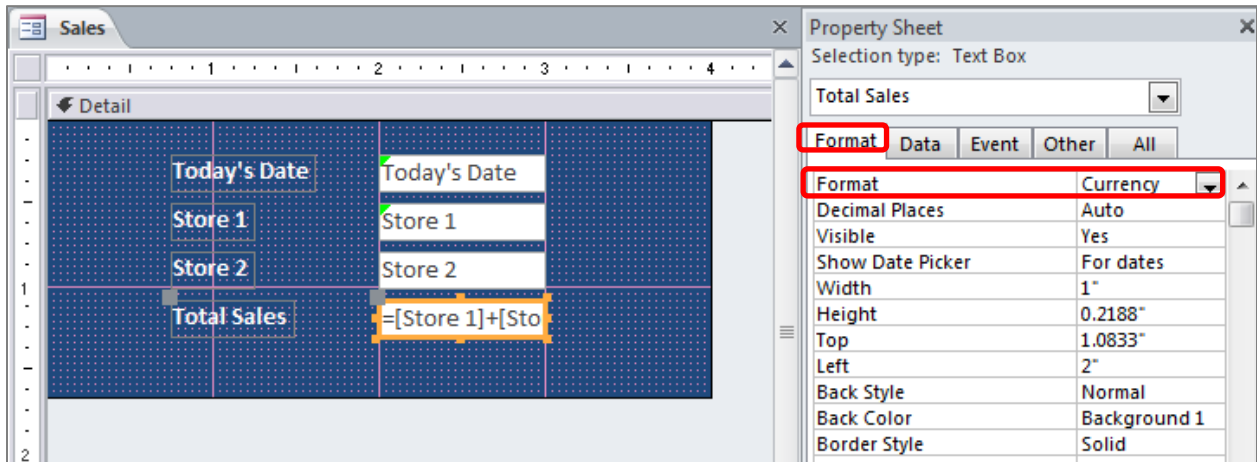


Figure 92 – Format Tab

10. As you enter data into the form, the total will be displayed (see *Figure 93*).

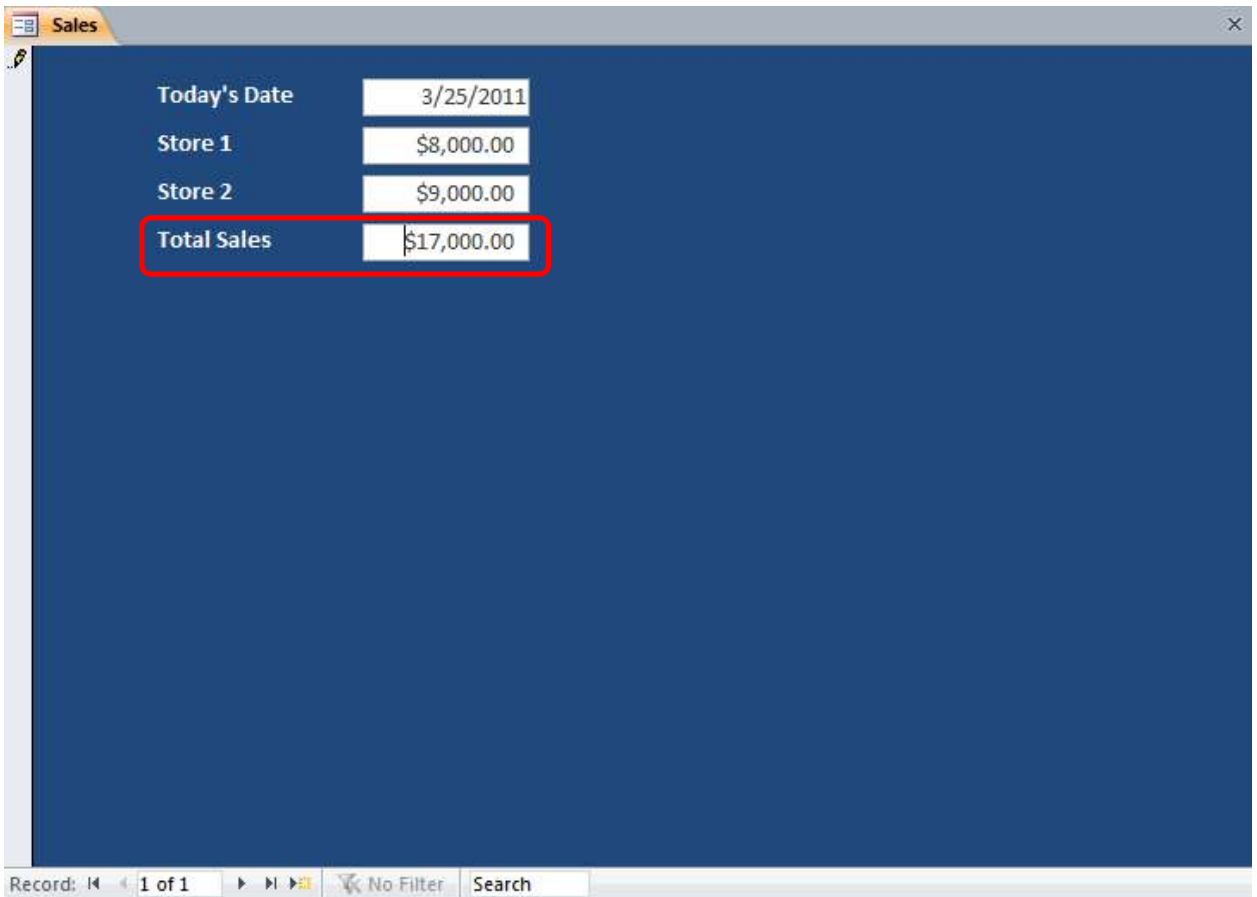


Figure 93 - Total