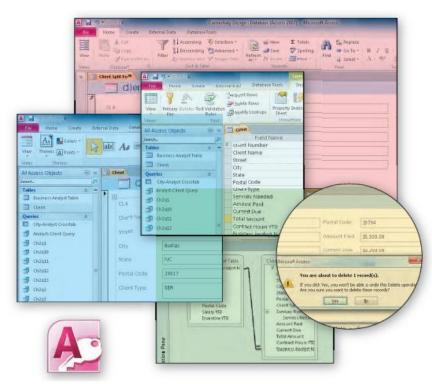
# Microsoft Access 2010

Chapter 3

#### Maintaining a Database





# **Objectives**

- Add, change, and delete records
- Search for records
- Filter records
- Update a table design
- Use action queries to update records
- Use delete queries to delete records
- Specify validation rules, default values, and formats

# **Objectives**

- Create and use single-valued lookup fields
- Create and use multivalued lookup fields
- Add new fields to an existing report
- Format a datasheet
- Specify referential integrity
- Use a subdatasheet
- Sort records

## Project – Maintaining a Database



# **General Project Guidelines**

- Determine when it is necessary to add, change, or delete records in a database
- Determine whether you should filter records
- Determine whether additional fields are necessary or whether existing fields should be deleted
- Determine whether validation rules, default values, and formats are necessary
- Determine whether change to the format of a datasheet are desirable
- Identify related tables in order to implement relationships between the tables

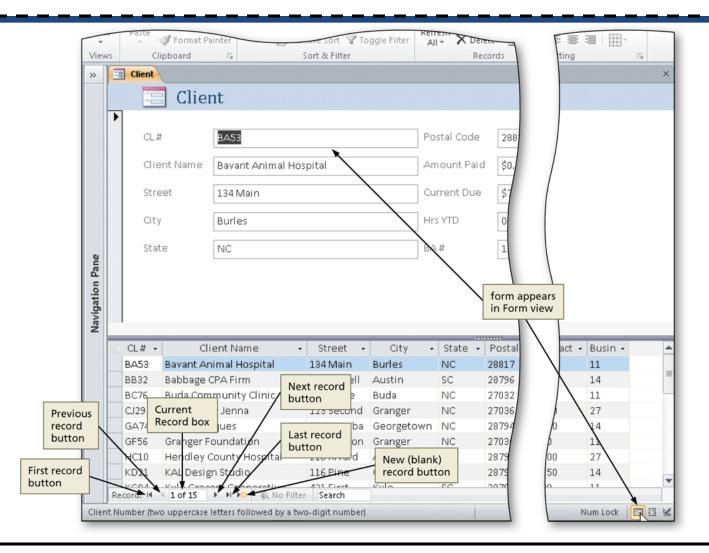
# Creating a Split Form

- Open the Navigation Pane
- Select the table in the Navigation Pane you wish to split
- Click Create on the Ribbon to display the Create tab
- Click the More Forms button to display the More Forms menu
- Click Split Form to create a split form
- Close the Navigation Pane

# **Creating a Split Form**

- Click the Form View button on the Access Status bar to display the form in Form view
- Click the Save button on the Quick Access Toolbar to display the Save As dialog box
- Type the desired form name
- Click the OK button

## Creating a Split Form



# Using a Form to Add Records

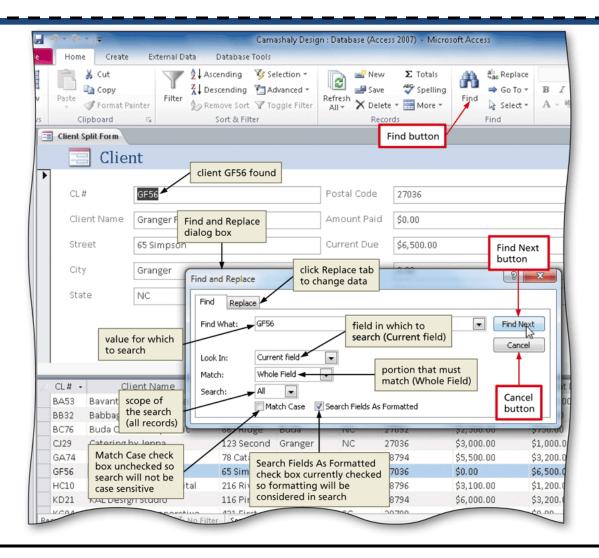
 Click the 'New (blank) record' button on the Navigation bar to enter a new record, and then type the data for the new record. Press the TAB key after typing the data in each field

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# Searching for a Record

- Open the Navigation Pane
- Scroll as necessary and right-click the form to search, and then click Open on the shortcut menu
- Click the Find button on the Home tab to display the Find and Replace dialog box
- Type the desired search text in the Find What text box
- Click the Find Next button
- Click the Find Next button again (as necessary) to locate additional matches
- Click the Cancel button

#### Searching for a Record



# Updating the Contents of a Record

- Click the field you wish to update
- Type the updated text
- Press the TAB key to complete the change and move to the next field
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## **Deleting a Record**

- With the form displayed, click the record selector in the datasheet next to the field you wish to delete
- Press the DELETE key to delete the record
- Press the Yes button to complete the deletion

#### Deleting a Record

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# Using Filter By Selection

- Open the table containing the field you wish to filter
- Click the a value in the field you wish to filter
- Click the Selection button on the Home tab to display the Selection menu
- Click the desired selection option to select only the matching records

#### Using Filter By Selection

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# **Toggling a Filter**

 Click the Toggle Filter button on the Home tab to toggle the filter

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# Using a Common Filter

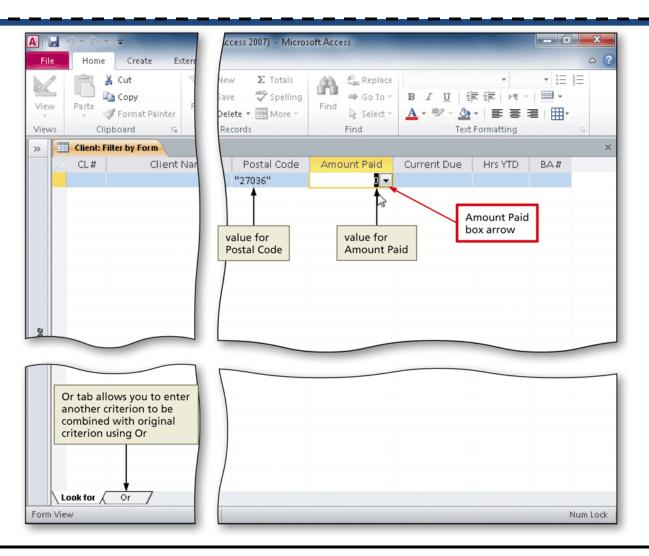
- Click the arrow next to the field name (column heading) to filter
- Click the desired filter

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# Using Filter By Form

- Click the Advanced button on the Home tab to display the Advanced menu
- Click Clear All Filters on the Advanced menu to clear any existing filters
- Click the Advanced button to display the Advanced menu
- Click Filter By Form on the Advanced menu
- Type the criteria in the blank row for the fields to filter
- Click the Toggle Filter button to apply the filter

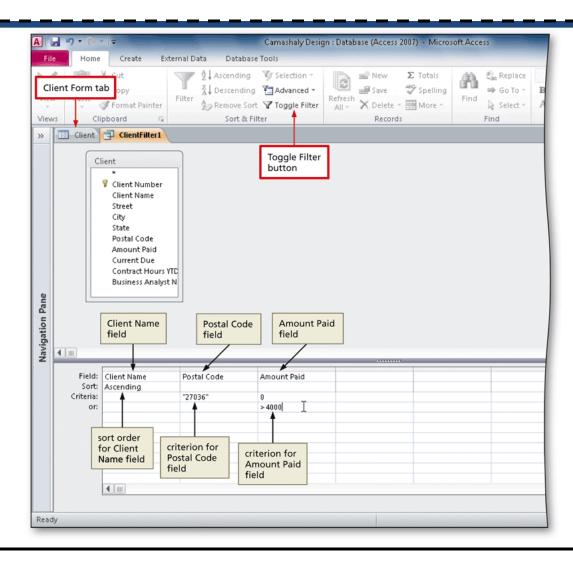
#### Using Filter By Form



# **Using Advanced Filter/Sort**

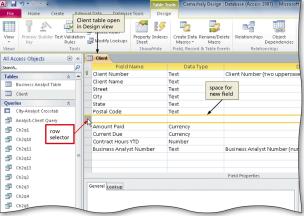
- Clear the existing filters
- Click the Advanced button to display the Advanced menu
- Click Advanced Filter/Sort on the Advanced menu
- If necessary, expand the size of the field list so all the fields appear
- Drag the desired fields to include in the advanced filter/sort, and type the appropriate criteria in the Criteria or 'or' row
- Click the Toggle Filter button on the Home tab to toggle the filter so that only records that satisfy the criteria will appear

#### Using Advanced Filter/Sort



## Adding a New Field

- Open the desired table in Design view
- Click the row selector below where you wish to insert the new field, and press the INSERT key to insert a blank row above the selected field
- Type the desired field name in the Field Name column



# Creating a Lookup Field

- Click the Data Type column for the field you wish to set as a lookup field, and then click the Data Type box arrow to display the menu of available data types
- Click the Lookup Wizard, and then click the 'I will type in the values that I want' option button
- Click the Next button
- Type the list of values (one item per row)
- Click the Net button
- Enter the label for the lookup field, and click the 'Allow Multiple Values' check box if necessary
- Click the Finish button

#### Creating a Lookup Field

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# Adding a Calculated Field

- Insert a new field, and type the desired field name in the Field Name column
- Click the Data Type box, and then click Calculated to select the Calculated data type and display the Expression Builder dialog box
- Create the desired expression, and then click the OK button

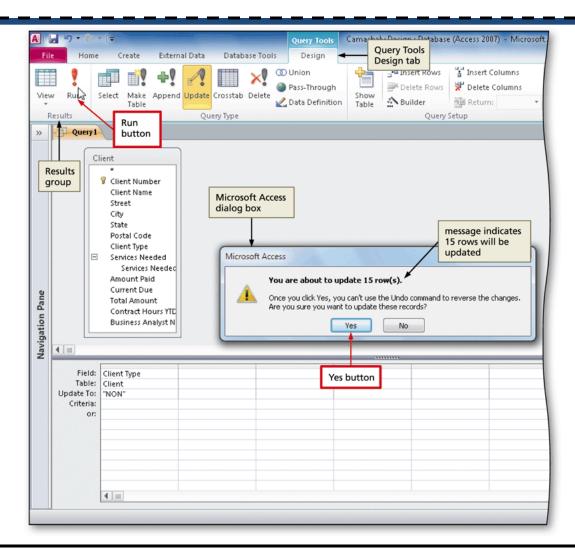
#### Adding a Calculated Field

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# Using an Update Query

- Create a new query for the desired table
- Click the Update Query button on the Query Tools Design tab
- Double-click the field to update, and then type the value to update the field to in the Update To row
- Click the Run button to run the query and update the records
- Click the Yes button to make the changes

#### Using an Update Query

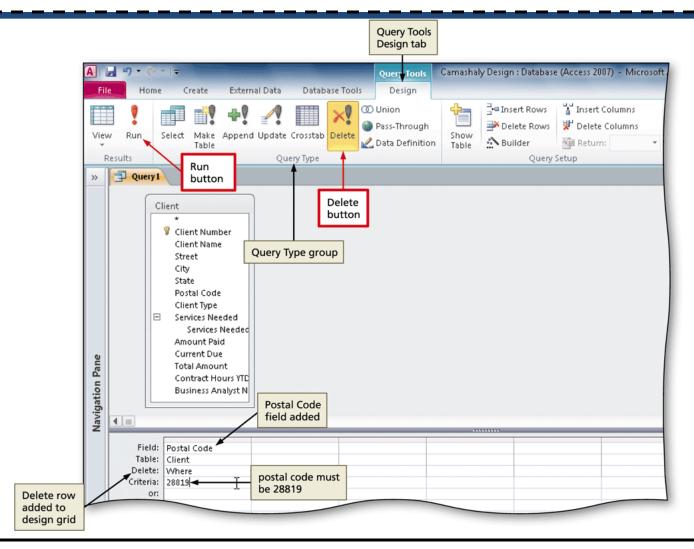


Maintaining a Database

# Using a Delete Query

- Create a new query for the desired table
- Click the Delete button on the Query Tools Design tab to make the query a delete query
- Double-click the field containing the criteria for the records to delete
- Click the Criteria row and then type the desired criteria
- Run the query by clicking the Run button
- Click the Yes button to acknowledge the number of records to be deleted

## Using a Delete Query



Maintaining a Database

# **Specifying a Required Field**

- In Design View, click the Required property box in the Field Properties pane next to the desired field to make required
- Click the down arrow that appears, and then click
   Yes

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# **Specifying a Range**

- In Design View, click the desired field for which you want to specify a range, and then click the Validation Rule property box
- Type the desired range
- Type the desired validation text in the Validation Text property box

# Specifying a Range

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Design	n view. F6 = Switch pan	es. F1 = Help.		

# **Specifying the Default Value**

 With the field selected in Design View, click the Default Value property box and then type the desired default value

	City	Client Ty selected	pe field	
	State		Text	
	Postal Code		Text	
	Client Type		Text	
	Services Needed		Text	
	Amount Paid		Currency	
	Current Due		Currency	
	Total Amount		Calculated	
e B			Number	
Pa	Contract Hours YTE	-		
5	Business Analyst N	Jumber	Text	Business Analyst Number (number of business analyst for cli
atic				Field Properties
<u>ö</u>				Field Properties
Navigation Pane	General Lookup			
~	Field Size	255		
	Format			
	Input Mask		default value	
	Caption			
	Default Value	=NON		
	Validation Rule			
	Validation Text			
	Required	No		
	Allow Zero Length	Yes		
	Allow Zero Length Indexed	Yes No		
	Indexed	No		
	Indexed Unicode Compression	No Yes		
	Indexed Unicode Compression IME Mode	No Yes No Control		•

# **Specifying a Collection of Legal Values**

- With the desired field selected in Design view, click the Validation Rule property and type the desired legal values, each preceded by an equal sign
- Type the desired validation text

		City	Client Ty selected	pe field								7
		State /		Text								1
		Postal Code		Text								1
		Client Type		Text								1
		Services Needed		Text								1
		Amount Paid		Currency								1
		Current Due		Currency								1
		Total Amount		Calculate								1
ane		Contract Hours YTD		Number								1
Ъ Б		Business Analyst Nu	ımber	Text		Business Ar	nalyst Nu	umber (nur	nber of bu:	siness analy	st for c	lie
Navigation Pane		ield Size and	e "pon" = "pon" = "pon" = "NON" or = Must be NO No Yes No Yes No Control	added by Access	'SER"		Field alidation	I				
	E F	ME Sentence Mode imart Tags	None								-	
Desi	gn v	riew. F6 = Switch panes.	F1 = Help.									
_	_										_	-

### **Specifying a Format**

- Select the desired field for which you want to specify a format
- Click the Format property box and then type the desired format

	Field Name	Data Type	Description
P	Client Number	Text	Client Number (two uppercase letters followed by a two-digit number)
	Client Name	Text	
	Street	Text	
	City	Text	
	State	Text	
	Postal Code	Text	
	Client Type	Text	
	Services Needed	Text	
	Amount Paid	Currency	
	Current Due	Currency	
Γ	Total Amount	Calculated	
	Contract Hours YTD	Number	
	Business Analyst Number	Text	Business Analyst Number (number of business analyst for client)
			Field Properties
l r	General Lookup		
	Field Size 4		
	Format >	r	

### Changing the Contents of a Field

- Open the desired field in Datasheet view
- Click the value for the field you wish to update
- Type the new field contents
- Click the Save button on the Quick Access Toolbar

/iew iews	Paste	Cut Ascendir Copy Eilter Column resized Remove Sort &	ing right b Sort field se	oundary of elector for Clie	ve	Spelling	the Replace → Go To + ind Find
	Client	•					
	CL# -	Client Name	- Street -	City -	State 👻	Postal Code	<ul> <li>Client Type</li> </ul>
	BA53	Bavant Animal Hospital 🛛 😼	134 Main	Burles	NC	28817	NON
	BB32	Babbage CPA Firm	464 Linnell	Austin	SC	28796	NON
	BC76	Buda Community Clinic	867 Ridge	Buda	NC	27032	NON
	CJ29	Catering by Jenna	123 Second	Granger	NC	27036	NON
	GF56	Granger Family Foundation	65 Simpson	Granger	NC	27036	NON
	HC10	Hendley County Regional Hospital	216 Rivard	Austin	SC	28796	NON
	KD21	KAL Design Studio	116 Pine	Georgetown	NC	28794	NON
	KG04	Kyle Grocery Cooperative	421 First	Kyle	SC	28798	NON
	KM03	Kyle Museum of Art	200 Main	Kyle	SC	28798	NON
	ME14	Mike's Electronic Stop	234 Gilham	Georgetown	NC	28794	NON
*	PJ34	Patricia Jean Florist	345 Magee	Kyle	SC	28798	NON
	SL77	Smarter Law Associates	764 Main	Burles	NC	28817	NON
	TB17	The Bikeshop	346 Austin	Buda	NC	27032	NON
							NON

#### Using a Lookup Field

- Open the table containing the lookup field in Datasheet view
- Click the arrow next to the lookup field to display a list of choices
- Select the desired choice

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50100	i iiicei		Records				ano	VV Text to	mutang	×
-	Street	<ul> <li>City</li> </ul>	- State -	Postal Co	de 🚽 🤇	lient Typ	oe 🕌	Services Net 🗸	Amount Paid 👻	Current I
	134 Main	Burles	NC	28817	D	ION			\$0.00	\$7,5
	464 Linnell	Austin	SC	28796	1	NON	1		\$1,500.00	\$5
	867 Ridge	Buda	NC	27032	F	RET			\$2,500.00	\$7
	123 Second	Granger	NC	27036	9	SER 🗲		value to select (S	CO 000 00	\$1,0
on	65 Simpsor	Granger	NC	27036	D	юл 🔨		select (5	\$0.00	\$6,5
al Hospital	216 Rivard	Austin	SC	28796	D	ION			\$3,100.00	\$1,2
	116 Pine	Georgetown	NC	28794	D	ION		\	\$6,000.00	\$3,2
e	421 First	Kyle	SC	28798	D	ION	list of	favailable	\$3,200.00	
	200 Main	Kyle	SC	28798	D	ION	value		\$0.00	\$7
	234 Gilham	Georgetown	NC	28794	D	ION L			\$2,500.00	\$1,5
	345 Magee	Kyle	SC	28798	D	ION			\$0.00	\$5,2
			NC	28817	-				\$3,800.00	

### Using a Multivalued Lookup Field

- Click the arrow next to a multivalued lookup field value to display a list of available options
- Click the desired options
- Click the OK button

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reet 🔻	City 🗸	State 🗸	Postal Co	de 🗸	Client Type	- Ser	vices Ner 🗸	Amo	unt Paid 👻	× Current
Main	Burles	NC	28817		SER		-		\$0.00	\$7,5
innell	Austin	SC	28796		SER		Ad		\$1,500.00	\$
Ridge	Buda	NC	27032		NON		Ban		\$2,500.00	Ś
Second	Granger	NC	2703		SER	V	Bill		\$3,000.00	\$1,
mpson	Granger	NC	2703 selec	ted ces	NON		Bus		\$0.00	\$6,
Rivard	Austin	SC	28796		NON		Enews		\$3,100.00	\$1,
Pine	Georgetown	NC	28794		SER		Host		\$6,000.00	\$3,
First	Kyle	SC	28798		RET		Logo		\$3,200.00	
Main	Kyle	SC	28798		NON		<sup>6</sup> Mkt		\$0.00	\$
Gilham	Georgetown	NC	28794		RET				\$2,500.00	\$1,
Magee	Kyle	SC	28798		RET				\$0.00	\$5,
Main	Burles	NC	28817		SER				\$3,800.00	
∆ustin	Buda	NC	27032		RET		Shop Soc		\$2,750.00	\$1,
					NON					
							OK Car	ncel		
						_				
						O	button			

### Updating a Form to Reflect the Changes in the Table

- Delete the existing form by right-clicking the form in the Navigation Pane, and then clicking Delete on the shortcut menu. Click the Yes button to confirm the deletion
- Click the desired table in the Navigation Pane to select the table
- Click Create on the Ribbon to display the Create tab
- Click the Form button to create a simple form
- Click the Save button on the Quick Access Toolbar, and then type the desired form name
- Close the form

# Updating a Form to Reflect the Changes in the Table

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Analyst Table	*	1	•	ŧ					
					CL#	BA53			
	^				Client Name	Bavant Animal Hospital			
rst Crosstab ient Query					Street	134 Main			
					City	Burles			
					State	NC			
1		=			Postal Code	28817			
					Client Type	SER 🗲	Client Type field	Ł	
					Services Needed	Ad, Ban, Bill, Logo ┥	Services Needed	field	
					Amount Paid	\$0.00			
					Current Due	\$7,500.00			
					Total Amount	\$7,500.00 ◄	Total Amount field		
hu					Hrs YTD	0.00			

# Updating a Report to Reflect the Changes in the Table

- Open the report you want to modify in Layout View
- Resize columns as necessary by pointing to the righthand border of the column heading so that the mouse pointer becomes a two-headed arrow , and then drag the pointer to resize the field
- To add fields to the report, click the Add Existing Fields button on the Report Layout Tools Design tab to display a field list
- Point to the field you want to add, press and hold the left mouse button, and then drag the mouse pointer until the line to the left of the mouse pointer is at the location where you want to add the field

## Updating a Report to Reflect the Changes in the Table

- Repeat the previous steps as necessary to add additional fields
- To change the orientation of the report to Landscape, click the Landscape button on the Report Layout Tools Page Setup tab

### Updating a Report to Reflect the Changes in the Table

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	Client Number	Client Name	Amount Paic	line and po	pinter shape ou are placing lragging	Buxir Anal Num	Chern Volne Street City State Postal Code Client Type	
	BA53	Bavant Animal Hospital	\$0.00	a field by a		11	Services Needed     Services Needed, Value	
	BB32	Babbage CPA Firm	\$1,500.00	\$500.00	5.00	14	Amount Paid	
a	BC76	Buda Community Clinic	\$2,500.00	\$750.00	2.50	11	Current Due Total Amount	
Navigation Pane	CJ29	Catering by Jenna	\$3,000.00	\$1,000.00	15.50	27	Contract Hours YTD Business Analyst Number	
	GF56	Granger Family Foundation	\$0.00	\$6,500.00	additional field to add	K		
avig	HC10	Hendley County Regional Ho	spital \$3,100.00	\$1,200.00	12:00	27		
z	KD21	KAL Design Studio	\$6,000.00	\$3,200.00	30.50	14		
	KG04	Kyle Grocery Cooperative	\$3,200.00	\$0.00	5.00	11		
	ME14	Mike's Electronic Stop	\$2,500.00	\$1,500.00	8.50	27		
	PJ34	Patricia Jean Florist	\$0.00	\$5,200.00	0.00	27		
	SL77	Smarter Law Associates	\$3,800.00	\$0.00	10.50	11	1	
	TB17	The Bikeshop	\$2,750.00	\$1,200.00	14.00	27		
	KM03	Kyle Museum of Art	\$0.00	\$750.00	0.00	0.5		

Add Existing

#### Including Totals in a Datasheet

- Open the desired table in Datasheet view
- Click the Totals button on the Home tab to include the Total row in the data sheet
- Click the Total row in the desired column
- Click the arrow to display a menu of available calculations
- Click the Desired calculation

#### Including Totals in a Datasheet

Home tab Camashaly Design : Database (Access 2007) - Microsoft Access A Table Tools Create External Data Database Tools Fields File Home Totals ab Replace Calibri (Detail) 🔏 Cut 👌 🕽 Ascendina C Selection Σ Totals 1 button X Copy 🚺 Descending 🛛 🐔 Advanced 🝷 🍄 Spelling 🔿 Go To 🔻 BIU Save View Filter Refresh Find Paste 🗙 Delete 🝷 🧱 More 🝷 Select -A • 🕸 • 🌆 • 📑 🗃 I Format Painter Sort Toggle Filter All -Business Views Clipboard Records Find Text Formattin Analyst Table Business Analyst Table >> + State - Postal Code + Total row arrow ve YTD - Click to Ad BA# - Last Name - First Name - Street -City **Records** group Cordelia 251 Painter Georgetown \$3,450.00 11 Kerry \$3,200.U 14 Manuel 3125 Steel Kyle 28797 \$3,100.00 \$2,430.00 Martinez SC \$3,00.00 27 265 Marble Byron \$2,280.00 Liu Jan no calculation 28795 \$500.00 35 Scott Jeff 1925 Pine \$0.00 Georgetown NC calculate sum Total None calculate average Sum Average Total row Total row for Count added count records Incentive YTD field Maximum Pane Minimum find largest value Navigation Standard Deviation. calculate standard Variance deviation find smallest value calculate variance available calculations Record: I4 4 Totals Datasheet View Nu

Maintaining a Database

### **Changing Gridlines**

- Open the table in Datasheet view
- Click the box in the upper-left corner of the Datasheet selector to select the entire datasheet
- Click the Gridlines button on the Home tab to display the Gridlines gallery
- Click the desired command in the Gridlines gallery

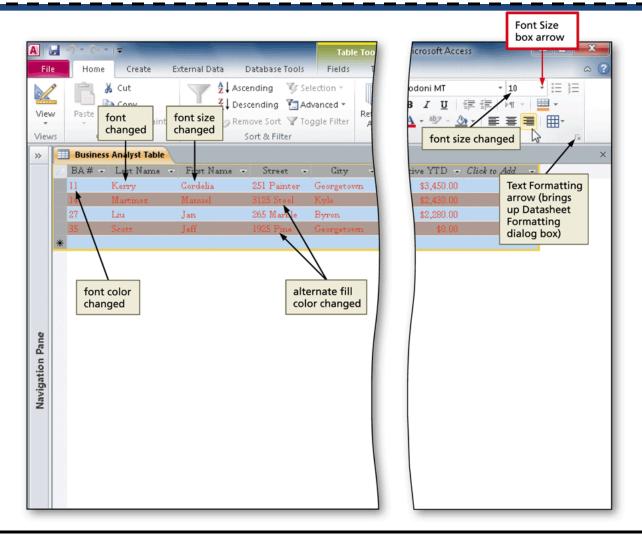
#### Changing Gridlines

Data	Database Tools	Tabl Fields	e Tool: Ta	s Ca ble	mashaly Design : Da	itabase (Access 2007)	- Microsoft Access	Gridline
Z↓ Des	ending 🏼 🌾 Se scending 🔚 Ad nove Sort 🖓 To Sort & Filter	lvanced 🔻	Refre	esh Del		Image: Addition of the second sec	Calibri (Detail) <b>B</b> <i>I</i> <u>U</u> == <u>A</u> = = = <u>A</u> = <u>A</u> = = <u>A</u>	
						Text Formatti		Gridlines: Both
Jame → ia	Street - 251 Painter	City Georget			Postal Code 👻 28794	Sala group \$3,200.00	ive YTD - C. \$3,450.00	Gridlines: <u>H</u> orizontal
2	3125 Steel 265 Marble	Kyle Byron		SC SC	28797 28795	\$3,100.00 \$3,400.00	\$2,430.00 \$2,280.00	Gridlines: <u>Y</u> ertical
	1925 Pine	Georget	own	NC	28794	\$500.00	\$0.00	Gridlines: None
						Horizontal com (only horizontal gridlines)		Gridlines gallery

# Changing the Colors and Font in a Datasheet

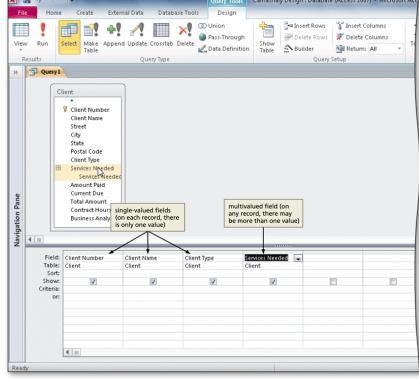
- With the datasheet selected, click the Alternate Row Color button arrow on the Home tab to display the color palette
- Click the desired color
- Click the Font Color button arrow, and then click the desired font color
- Click the Font box arrow, and then scroll and click the desired font
- Click the Font Size box arrow, and click the desired font size

## Changing the Colors and Font in a Datasheet



### Querying a Multivalued Field Showing Multiple Values on a Single Row

- Create a query for the desired table
- Include fields you want in the query, including a multivalued field
   Include field



\_

### Querying a Multivalued Field Showing Multiple Values on Multiple Rows

- Create a query in Design view containing a multivalued field containing multiple values
- Click the multivalued field name in the design grid, position the insertion point at the end, and then type .value to use the Value property
- View the results

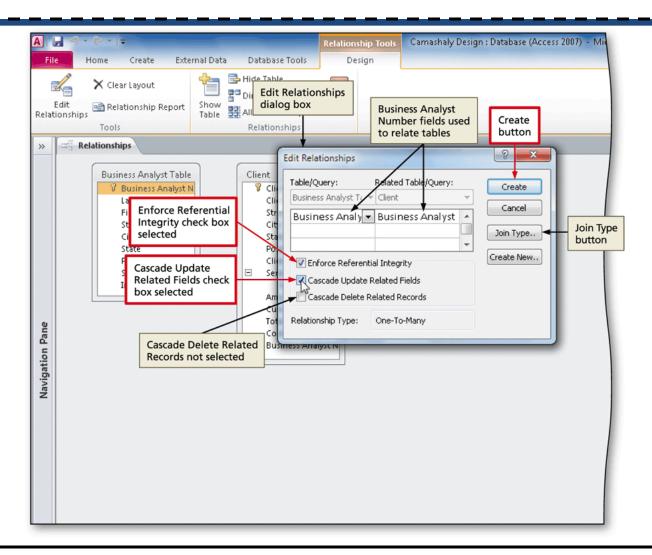
### Querying a Multivalued Field Showing Multiple Values on Multiple Rows

Field:       Client Number       Client Name       Client Type       es Needed.Value]         Table:       Client       Client       Client       Client         Sort:       Show:       Image: Client Client       Image: Client Client       Image: Client Client         Show:       Image: Client       Image: Client Client       Image: Client Client       Image: Client Client         Show:       Image: Client       Image: Client Client       Image: Client Client       Image: Client Client         Or:       Image: Client       Image: Client Client       Image: Client Client       Image: Client Client         Image: Client       Image: Client       Image: Client       Image: Client Client       Image: Client Client         Show:       Image: Client       Image: Client       Image: Client       Image: Client       Image: Client         Image: Client       Image: Client       Image: Client       Image: Client       Image: Client       Image: Client         Image: Client       Image: Client       Image: Client       Image: Client       Image: Client       Image: Client         Image: Client       Image: Client       Image: Client       Image: Client       Image: Client       Image: Client         Image: Client       Image: Client       Image: Client       Ima	Navigation Pane		ient  Client Number Client Name Street City State Postal Code Client Type Services Needed Services Needed Current Due Total Amount Contract Hours YTE Business Analyst N			only final portion of field name appears	
	-	Table: Sort: Show: Criteria:	Client	Client	Client	es Needed.Value	

### **Specifying Referential Integrity**

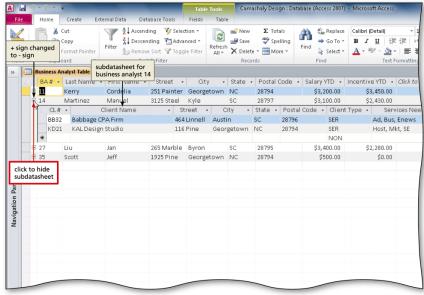
- Click Database Tools on the Ribbon to display the Database Tools tab
- Click the Relationships button to open the Relationships window and display the Show Table dialog box
- Add the tables with associated primary and foreign keys
- Drag the primary key from the first table to the foreign key in the second table to display the Edit Relationships dialog box to create a relationship
- Click the Enforce Referential Integrity check box
- Click the Cascade Update Related Fields check box
- Click the Create button to complete the creation of the relationship

#### Specifying Referential Integrity



#### Using a Subdatasheet

- Open the table related another table in Datasheet view
- Click the plus sign in front of the row for a record to display the subdatasheet



## Using the Ascending Button to Order Records

- Open the desired table in Datasheet view
- Click in the first record on the field to sort
- Click the Ascending button on the Home tab to sort the records in ascending order

# Using the Ascending Button to Order Records

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	BB32	Babbage CPA Firm		464 Linnell	Austin	SC	28796	SER	Ad,
	TB17	The Bikeshop		346 Austin	Buda	NC	27032	RET	Ad,
	BC76	Buda Community Clinic		867 Ridge	Buda	NC	27032	NON	Bar
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	BA53	Bavant Animal Hospital		134 Main	Burles	NC	28817	SER	Ad,
	ME14	Mike's Electronic Stop		234 Gilham	Georgetown	NC	28794	RET	Ad,
	KD21	KAL Design Studio		116 Pine	Georgetown	NC	28794	SER	Hos
	GF56	Granger Family Foundation		65 Simpson	Granger	NC	27036	NON	Hos
	CJ29	Catering by Jenna		123 Second	Granger	NC	27036	SER	Bus
	KM03	Kyle Museum of Art		200 Main	Kyle	SC	28798	NON	Ene
	PJ34	Patricia Jean Florist		345 Magee	Kyle	SC	28798	RET	Bus
	KG04	Kyle Grocery Cooperative		421 First	Kyle	SC	28798	RET	Ad,
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#### Chapter Summary

- Add, change, and delete records
- Search for records
- Filter records
- Update a table design
- Use action queries to update records
- Use delete queries to delete records
- Specify validation rules, default values, and formats

#### Chapter Summary

- Create and use single-valued lookup fields
- Create and use multivalued lookup fields
- Add new fields to an existing report
- Format a datasheet
- Specify referential integrity
- Use a subdatasheet
- Sort records

### Microsoft Access 2010

#### **Chapter 3 Complete**

