

Crystal Reports 8.5 Power User Workshop

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This course covers Crystal Reports software

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Introduction

Introduction Objectives

This manual is written to give you a step-by-step guide for your classroom training and a handy reference for your daily work. In this Introduction, you will learn how to use this training guide effectively. This section covers the following topics:

- Class objectives
- Help with using this training guide

About Crystal Reports

In today's information intensive environment, every business has a database of some sort. After all, business today is all about information and databases give you a handle on the massive amounts of information you must deal with. So your business has a database and from that database, you need reports. The problem is, most reporting capabilities that come with database programs are limited. They only report on data from that program. Many users need to report on data from multiple sources, even databases that are in SQL (Structured Query Language), such as Oracle, Microsoft SQL Server, Informix or Sybase.

Crystal Reports is one of the most powerful reporting programs available with the ability to pull data from all types of data sources. You can use Crystal Reports to generate reports from any of the standard PC database programs, Access, Paradox, or FoxPro, as well as from a mainframe or server database. Crystal also has a powerful web reports server that allows you to distribute your reports over the web.

Crystal Reports is bundled with more than 160 other programs including Visual Basic, some medical applications and several accounting packages. It makes report generation easy without requiring you to be a programmer or a database expert. If you know how to work in Windows 95 and are familiar with the data you want to use, you can create a Crystal Report that looks professional and makes sense.

Training Philosophy

Studies show that people retain 10% of information they see, 20% of information they hear, 50% of what they see and hear, and 80% of what they see, hear and do. In line with this, this class utilizes a hands-on method of training. You will see the effects of new skills on the screen, hear the instructor explain how and why to use features, and perform each command yourself as you learn.

In addition, this class focuses on your ability to perform tasks using the most productive techniques. The manual may contain several methods of accomplishing a certain task. However, class time does not allow for practice of all methods for each task. Your instructor will guide you in the most effective method of performing a task, but inform you of other methods that are available.

Questions are encouraged. While we give our best effort to explain new concepts in understandable terms, you may need to hear the concept again or have it explained more thoroughly. Please let the instructor know when you need more information!

Pre-Qualification Exercise for the Power User Workshop

Why Should You Pre-qualify Yourself for the Power User Workshop?

The Crystal Reports Power User Workshop is designed for the experienced Crystal Reports user. It covers the more complex and powerful features of the program. The class discusses very technical issues and includes several fast-paced, comprehensive exercises. Our instructors have years of experience helping students to get the most out of their training. However, it is not always possible in a high level workshop to assist students with basic tasks.

In order to maximize the benefit you receive from the Crystal Reports Power User Workshop, you should come into the training with a certain skill level. We assume all students who sign up for this workshop have a comfortable level of understanding regarding relational databases. Students should also be able to perform the following tasks in Crystal Reports:

- Create a new report, insert fields, save the report and refresh the data.
- Add multiple tables to the report using the Data Explorer.
- Use the select expert to pull only the data needed from the database.
- Insert groups and summarize fields within the group.
- Perform formatting tasks.
- Create, save and use formulas in the report.

If you would like to evaluate for yourself whether this is the correct level course, take our self-evaluation exercise. The exercise consists of writing a report in Crystal Reports. When you are finished, compare your report to the one our experts have done to see how well you understand the basic features of Crystal Reports. You can obtain the exercise and the results report from Vision Harvest, Inc.' web site, www.visionharvest.com, or by e-mailing us at sales@visionharvest.com, or we can fax it to you. Call us at 1-888-236-8087

If you have trouble creating the report or getting the correct results, or if you cannot perform some of the above-mentioned tasks, then we strongly recommend that you take the Crystal Reports Quick Start Workshop before attending the Power User Workshop. By assuring that you are well prepared for the Power User Workshop, you maximize the benefits you receive from this in-depth look at advanced report writing.

Pre-qualification Exercise

Using the Xtreme sample database that ships with Crystal Reports, create a report that invoices customers for each order. The report needs to show the customer billing address, the PO#, the sales person, the order date, the requested date, the ship date and company that shipped the order. The Details section should list the product ID, the product name, the description, the unit price, the quantity, and the line item total.

Select only those orders with an Order Amount greater than zero and with a ship date between January 1, 1997 and March 31, 1997. Group on the Customer ID, then on the Order ID. Display each order on its own page. Sum the line item total amount for each Order ID. Calculate the sales tax for the order at 6% and total the subtotal and sales tax.

You will need to pull data from the following tables:

Customer	Product
Orders	Product Type
Orders Detail	Employee

You will need to create the following formulas:

Line Item Total that multiplies the unit price times the quantity for each product ordered.

Sales Tax that multiplies the sum of each line item total times 6%.

Order Total that adds the sum of each line item total and the sales tax.

Product Description that contains nested If...then...else statements to show the Size field if the Color field is empty, the Color field if the Size field is empty, and both fields, separated by a comma, if both contain data.

You will need to create the following text boxes:

An address box with the text **To:** then the company name, the address, the city, region and postal code.

An employee box with the employee first name, a space, and then the last name.

Format the report to look like the illustrations on the following pages:

Invoice



Date: July 4, 2000
Invoice Number: 1143

To: City Cyclists
 7464 Kingsway
 Sterling Heights, MI 48358

Order Date: January 6, 1996
Required Date: January 9, 1996
Ship Date: January 8, 1996
Ship Via: Fed Ex

Sales Person: Nancy Davolio

Product ID	Product Name	Description	Unit Price	Quantity	Line Total
1107	Active Outdoors Lycra Glove	xsm	16.50	3	49.50
4102	Influx Crochet Glove	med	12.83	1	12.83
Subtotal:					\$ 62.33
Sales Tax:					3.74
Order Total:					\$ 66.06

Invoice



Date: July 4, 2000
Invoice Number: 1246

To: City Cyclists
7464 Kingsway
Sterling Heights, MI 48358

Order Date: January 30, 1996
Required Date: January 30, 1996
Ship Date: January 30, 1996
Ship Via: Pick up

PO#: 8165
Sales Person: Margaret Peacock

Product ID	Product Name	Description	Unit Price	Quantity	Line Total
103151	Endorphin	15, deep burgundy	899.85	1	899.85
1108	Active Outdoors Lycra Glove	sm	14.85	3	44.55
101152	Descent	15, steel yellow	2,929.85	1	2,939.85
Subtotal:					\$ 3,884.25
Sales Tax:					233.06
Order Total:					\$ 4,117.31

Power User Workshop Class Objectives


This class is a performance based instructional system. It is geared to provide you with the tools you need to build and distribute reports the quickest, most efficient way. After completing this course, you will be able to perform the following tasks:

- Create reports from MS Excel and MS Access
- Use multiple sections in reports for advanced formatting techniques
- Underlay graphics and charts to print beside data
- Create and format Cross-Tab reports and create charts from Cross-Tabs
- Calculate running totals in reports
- Develop parameter fields to prompt users for information
- Limit user entry into parameter fields
- Solve table link problems with advanced linking techniques
- Use SQL Expressions and the Switch function for better report performance
- Customize groups in the report with formulas and custom names and create hierarchical groups
- Perform group selection based on summary field values
- Understand Crystal Reports data handling and Evaluation Time functions
- Comfortably make use of variables in formulas
- Work with arrays and control structures in formulas for more flexible decision making
- Use additional reports within a main report as subreports
- Create linked subreports to tie data from another report to the current report
- Format subreports to display on demand only
- Use SQL to query the database through the Crystal SQL Designer

About This Manual

Each section of this manual contains objectives to provide you with the overall goals for the lesson. Lessons have descriptions of features and concepts followed by step-by-step directions for completing a specific task, and exercises. **Reports created in the early exercises are often used again in later exercises.** Each section ends with a challenge exercise to help you practice the skills you learned in the lesson. Challenge exercises provide you with tasks to accomplish. Try to complete the exercises on your own.

As you work in this Training Guide, certain conventions are used to identify specific procedures. Use the following table as a guide:

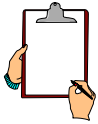
TRAINING GUIDE CONVENTIONS	
Item	Illustrated As
Menu Commands	Underlined letters for accessing menu commands are shown: Example: <u>F</u> ile/ <u>O</u> pen
Command Buttons	Command Buttons in dialog boxes are shown as buttons: Example: <input type="button" value="Tables..."/>
Categories, Radio Buttons, Text Boxes, Check Boxes	All options within dialog boxes are listed in italicized text: Example: the <i>Keep Group Together</i> check box the <i>Other</i> radio button
Keystrokes	Keyboard keys are indicated by uppercase text: Example: press ENTER Keyboard combinations are shown in uppercase text with a plus sign (+) between the keys that need to be pressed simultaneously. Example: press CTRL + S to save
Toolbar Buttons	Toolbar buttons are indicated by the button name and a graphic image of the button: Example: click the Print  button
Typing or File Selections	Text to be typed or file names to be selected are printed in bold letters: Example: type Henry select grouping.rpt
Exercises	Step-by-Step exercises in the text are indicated by bold text and the ❖ symbol. For example: ❖ Exercise - Format Objects

Tips, Notes, and Warnings

Tips, notes and warnings display with the following icons. Text for these additional comments displays in bold and italics.



This icon indicates a tip or shortcut.



This icon points out a note of additional information.



This icon calls attention to a warning or very important note.

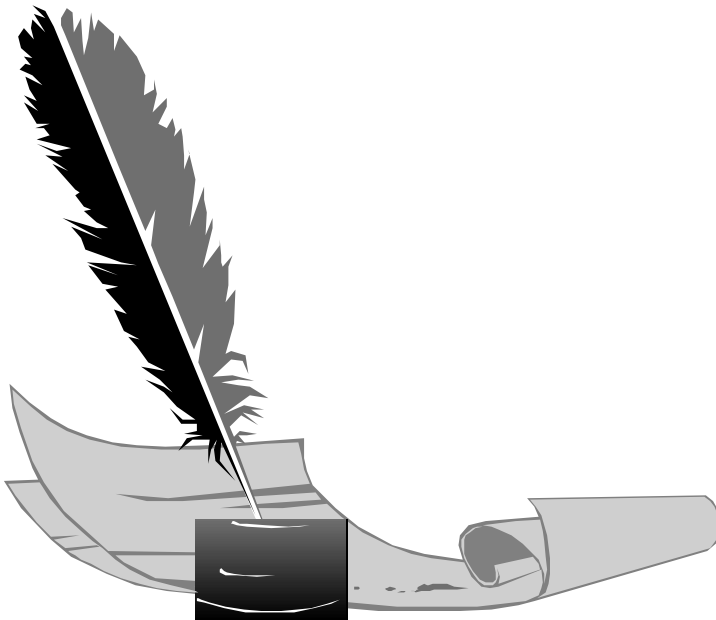
Section 1:

Basic Features Review

Lesson 1: Refresher Exercise

Lesson 2: Creating Reports from Excel and Access

NOTES



Lesson



Refresher Exercise

Lesson 1: Refresher Exercise

Lesson Objectives

After completing this lesson, you will be able to:

- Plan and Create a report from a set of business requirements
Review the techniques needed to plans and create a report.
- Add multiple groups to reports
Create groups within groups to subdivide your reports how you want.
- Summarize different group levels
You can effectively summarize information at any group level or all group levels.
- Insert simple lines and boxes for formatting
Make reports professional and attractive with graphical features.
- Utilize the Repeated Group Header feature
Add a "Continued..." message when a group prints across pages

Lesson 1: Refresher Exercise

Review of Planning a Report

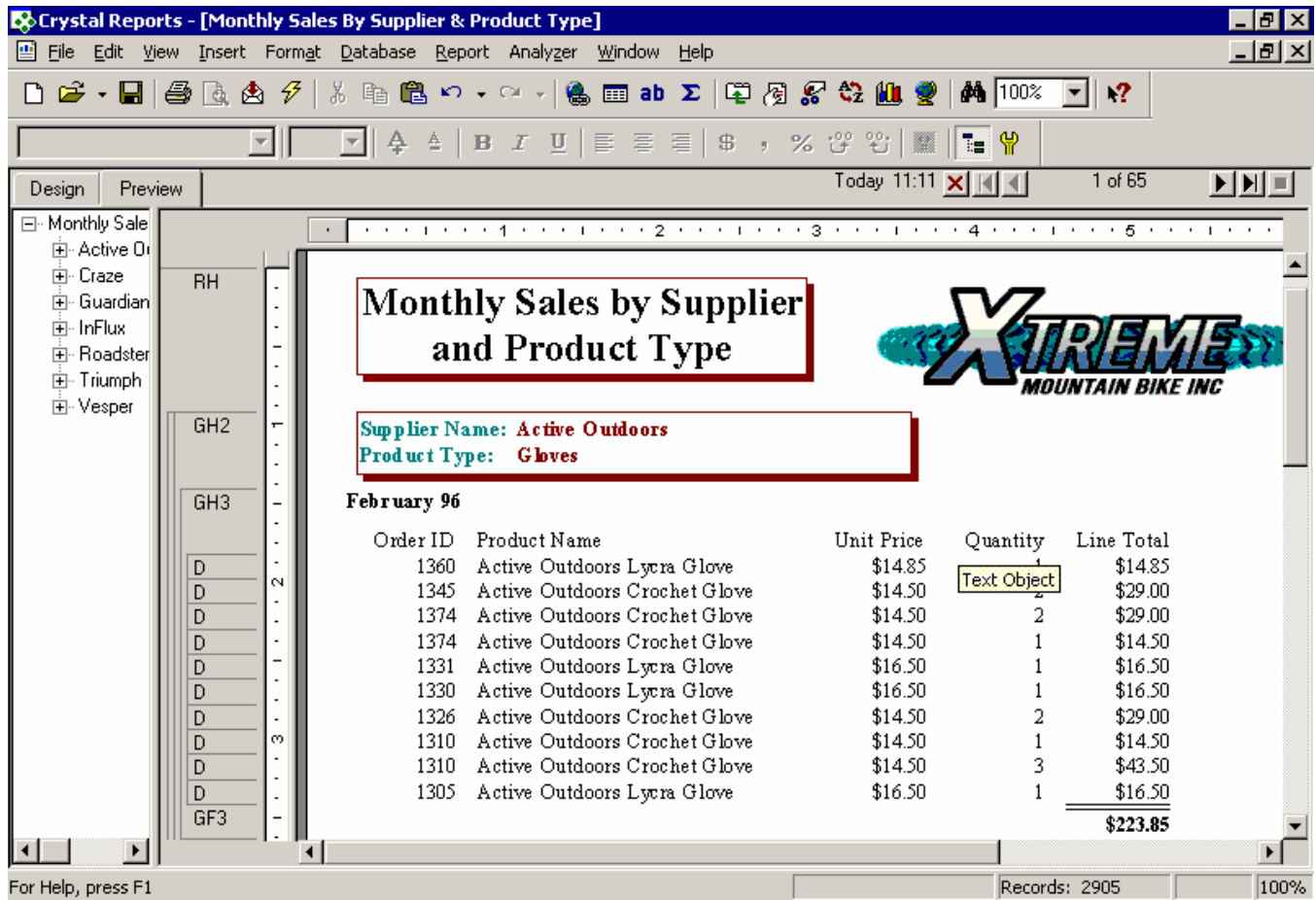
To make the report creation process efficient, you must plan the report. A little work up front before you ever open the Crystal Reports program can save you a lot of time putting the report together. It can also save problems caused by adding more tables to the report that can change the number of records displayed.

You must look at the business requirements for the report and decide what fields you need and the tables in which they are located. It is also helpful to look at things such as groupings, whether you need Cross-Tabs and what fields they contain, fields needed for formulas and selection criteria.

Suppose someone asks you to create a report based on the Xtreme Sample Database. Below are the business requirements for the report:

- The person requesting the report needs to see monthly customers sales by Supplier and Product Type. They want the Order ID, the Product Name, the line item Unit Price and Quantity and a total for the line items.
- They want the sales amounts summarized for each supplier, product type and month.
- They only need to see sales for 1998.
- Some of the groups are large enough to display on more than one page. They want the Supplier Name and Product Type repeated at the top of each page. If the group continues from the previous page, they want the word "Continued..." to print.
- The person requesting the report has supplied you with a printout of what the report should look like. See the sample below:

Lesson 1: Refresher Exercise



To create this report, first determine which fields you need.

- For the Detail section, you need the Order ID field, Product Name field, the Unit Price field and the Quantity field.
- For the Line Total formula, you need to multiply the Unit Price field and the Quantity field.
- For grouping, you need the Supplier Name, the Product Type Name, and the Order Date.
- Finally, you need to select orders from 1998 based on the Order Date.

Next, decide which tables you need to add to get the required fields.

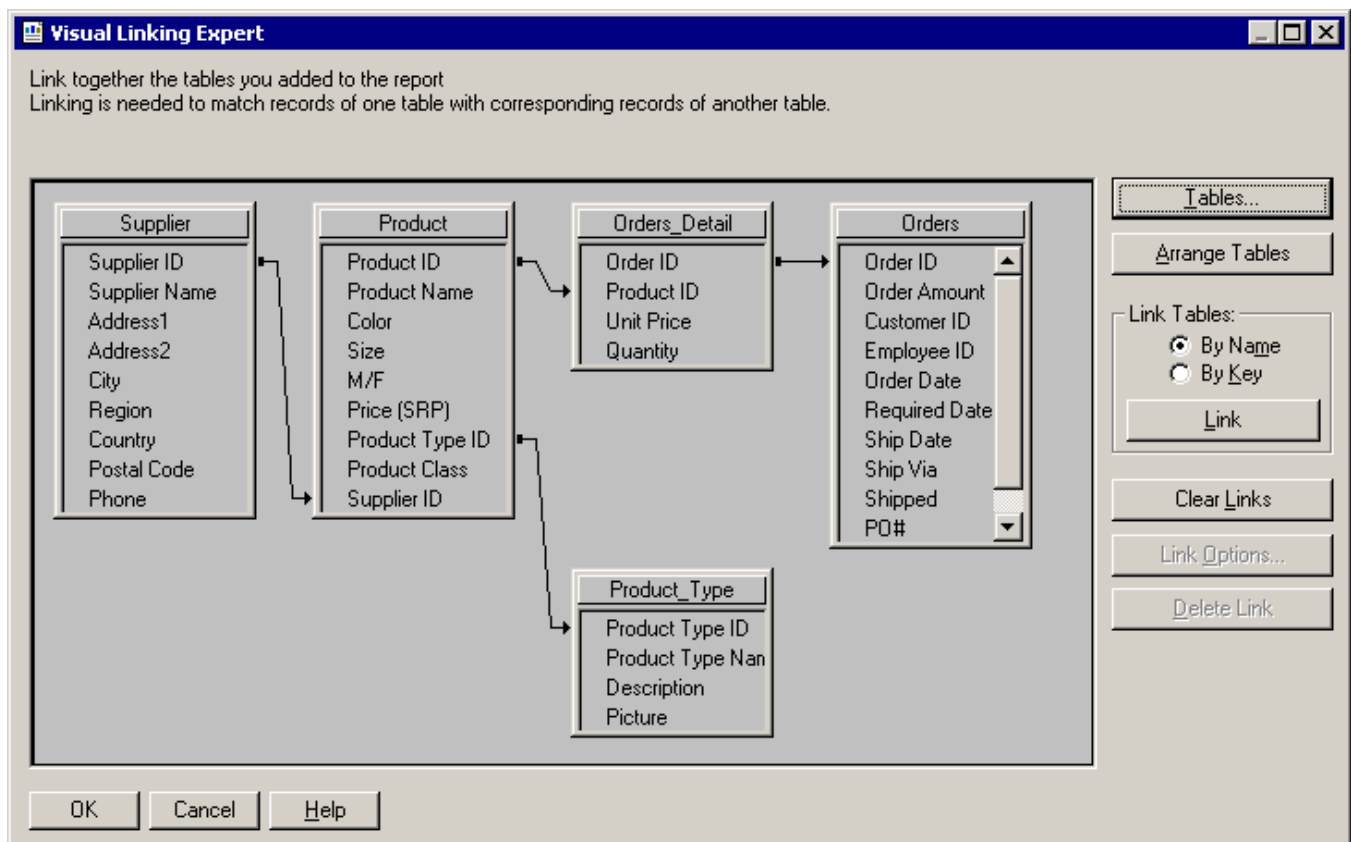
- The Supplier Name field is in the Suppliers table.
- The Product Name field is in the Products table.
- The Order ID and Order Date fields are in Orders.
- The Unit Price and Quantity fields are in Orders Detail.
- The Product Type Name field is in the Product Type table.


Lesson 1: Refresher Exercise

Since the Supplier Name is the main grouping, the Suppliers table should be the Primary table. From there you want to link Suppliers to Products with the Supplier ID field, link Products to Orders Detail with the Product ID field, link Orders Detail to Orders using the Order ID field, and, finally link Products to Product Type using the Product Type ID field.

Creating the Report

Since you have given this some thought and figured out the tables and the links, adding the tables in the correct order and creating the links is easy. The links should look like the following illustration:



Remember that you can add multiple tables to a report from the Data Explorer. You work with links using the Visual Linking Expert, which opens automatically if you add multiple tables. Or, open the Visual Linking Expert by choosing Database/Visual Linking Expert... from the menus or by clicking the Link Expert button  on the Supplementary toolbar.

Lesson 1: Refresher Exercise

Placing Fields on the Report

Remember that you have five ways of placing fields on a report. Select the field in the Field Explorer, then:

- Click the Insert button, then click in the report
- Double click the field, then click in the report
- Press ENTER, then click in the report
- Drag the field to the report
- Right mouse click, choose Insert to Report from the short cut menu, then click in the report

Remember that, when you place a field in the Details section, Crystal Reports adds a detail field title in the Page Header section and aligns the field and field title with a guideline. You can drag the guideline marker in the ruler to move the field and its title together.

Now that you have planned the report, you are ready to use Crystal Reports to create the report.

❖ **Exercise - Begin the Monthly Sales by Supplier and Product Type Report and Link the Tables Needed**

1. Start a new report as a blank report. Open the ODBC data sources and the Xtreme sample data source. Add the tables indicated by the business requirements.
2. Smart Linking should link the tables automatically.
When you are finished the links should look like the illustration on the previous page.
3. Add the appropriate fields to the Details section.
4. Change the Printer Setup to a Portrait page layout, if necessary. Change the margins to be .5" on all four sides.

Creating the Formulas

You are also going to need two formulas for this report. It can be helpful to write out the formulas in the planning stage to be sure that you have accounted for all necessary fields. The formulas you need for this report are as follows:


@Line Total

{Orders_Detail.Unit Price} * {Orders_Detail.Quantity}


@Continued

If InRepeatedGroupHeader then "Continued...."


Lesson 1: Refresher Exercise

Remember that formulas are created from the Field Explorer dialog box. Select Formula Fields, and then click the New  button. After naming the formula, the Formula Editor dialog box opens providing you with three lists to select fields, functions and operators.

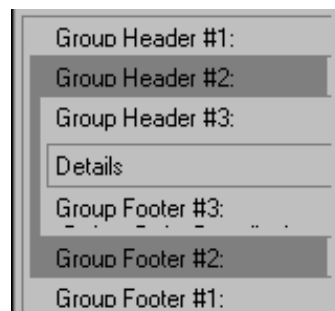
❖ Exercise – Create the Formulas and Add to the Report

1. Select Formula Fields: in the Field Explorer dialog box, then click the  button.
2. Name the formula **Line Total**.
3. Create the formula shown on the previous page.
4. Add the formula to the report Details section after the quantity field.
5. Since this field is right aligned, create a guideline and snap the field and its title to the guideline on their right edges. Delete the original guideline.
6. Create the **Continued** formula, but do not add it to the report yet.
You will add this formula later to display a "Continued" message in the group header. NOTE: the InRepeatedGroupHeader function is a function in the Print State category. Click the +sign to the left of Print State in the middle list in the Formula Editor, and then scroll to find the function. Double click the function to add it to the formula.

Advanced Grouping

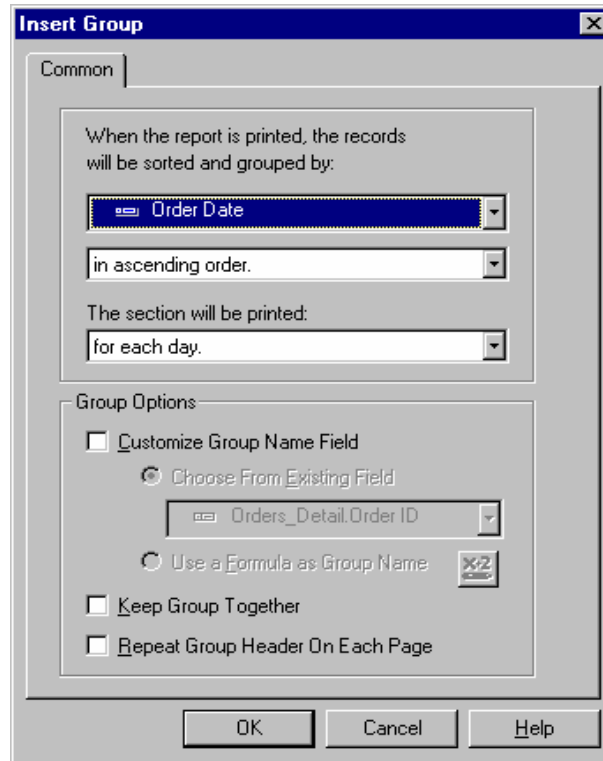
You can group data by using the Insert/Group... command or by clicking the Insert Group button  on the Supplementary toolbar. This report requires an Order Date group nested inside a Product Name group, nested inside a Supplier Name group.

It is not necessary to create groups in any particular order. As you create them, Crystal Reports nests each group inside the previous one you created. However, you can reorder groups in any order you want. To reorder groups, click the Group Header section name at the left of the Design screen, for the group you want to move. The group header and footer sections are highlighted. Drag the group to the new location. The mouse pointer changes to a grabbing hand as you drag.



Lesson 1: Refresher Exercise

TIP: When you group on a date field, Crystal Reports allows you to define the period for which the date is broken down; i.e. monthly, yearly, quarterly, etc. A third drop-down list appears automatically in the Insert Group dialog box allowing you to specify when the group is printed.



Remember that you can summarize any field by RIGHT clicking it, then choosing Insert Summary... You must specify the type of calculation you want Crystal Reports to perform and the group at which you want the summary to appear.

❖ **Exercise – Create groups and summarize the Line Total field**

1. Create a group on the Product Type Name and turn on the *Repeat group header on each new page* feature.
2. Create a second group on the Supplier Name. Also, turn on the *Repeat group header on each new page* feature.
OOPS! Crystal Reports nested the supplier group inside the product type group. What you really want is the product type group nested inside the supplier group.
3. Click the Group Header #2 section name at the left of the window. Drag the group header above the Group Header #1 section name to reorder the two groups.
The Product Type Name group should be nested inside the Supplier Name group.


Lesson 1: Refresher Exercise

4. Create a third group on the Order Date and choose to print the section for each month.
5. Create a summary for the Line Total column. Choose to insert the summary for all groups. You do not need a grand total in this report.
All the summary fields should automatically line up on the guideline to which the field is attached.

Selecting Certain Records

Remember that Crystal Reports pulls *all* records from the database unless you filter the records based on some criteria. The business requirements for this report request only records from the year 1998. To specify this, use the *between* operator and specify all records with an order date range beginning 01/01/98 and ending 12/31/98.

❖ Exercise – Select records with an Order Date in 1998

1. Make sure there are no fields selected on the report, and then click the Select Expert  button.
2. Choose the Order Date field.
3. Choose the *is between* operator.

In the first drop-down list, select **1/1/98 12:00:00AM**

5. In the second drop-down list notice that **12/31/98** is not available for selection. Choose **12/31/97 12:00:00AM**. Change the entry to read 12/31/98 12:00:00AM.
6. At this point save and preview the report. Name the report **Monthly Sales By Supplier & Product Type**.

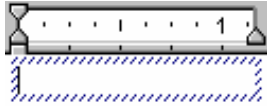
Helpful Hints for Formatting the Report

Adding and Working with Text Objects

Once you have created a group, you can delete the group name field from the group header without affecting the grouping. You can delete the Supplier Name and Product Type Name fields from Group Headers #1 and #2, then create a text object in Group Header #2 that contains the Supplier Name and Product Type.

Lesson 1: Refresher Exercise

Remember that text objects can contain text you type and fields from the report. You can add a field to a text object by dragging the field from the Field Explorer dialog box into the object. The mouse pointer is shaped like an arrow with a + sign when you are pointing into a text object. You can also move a field from the report into a text object. The text object must be in Edit Mode (flashing insertion bar and a small ruler above or below the object).



Also remember that you can format all or part of a text object:

- To format the entire text object select the object (there are handles around the object) then apply the formatting.
- To format part of a text object, double click the object to enter Edit Mode, and then select the part you want to format. When the part is highlighted, apply the formatting.
- To format a field inside a text object, double click the object to enter Edit Mode, and then click on the field. Once the field is highlighted, apply the formatting.

Hiding and Suppressing Sections

Remember that you can hide or suppress sections in a report by RIGHT clicking on the section name in Design view and choosing the appropriate command. Hiding a section causes the section to not display. However, users can double click summaries to display hidden details. Suppressing a section causes the section to not display without any options for viewing it.

Guidelines

As a reminder, you can add guidelines to the rulers at the left of each section and snap the tops or bottoms of objects to the guidelines to horizontally align them.

❖ Exercise - Format the Report

1. Return to the Design view. It is always easier to add objects from Design view.
2. Add the title and format as you see it in the sample report on page on page 16. Add the Xtreme logo to the right side of the Report Header.

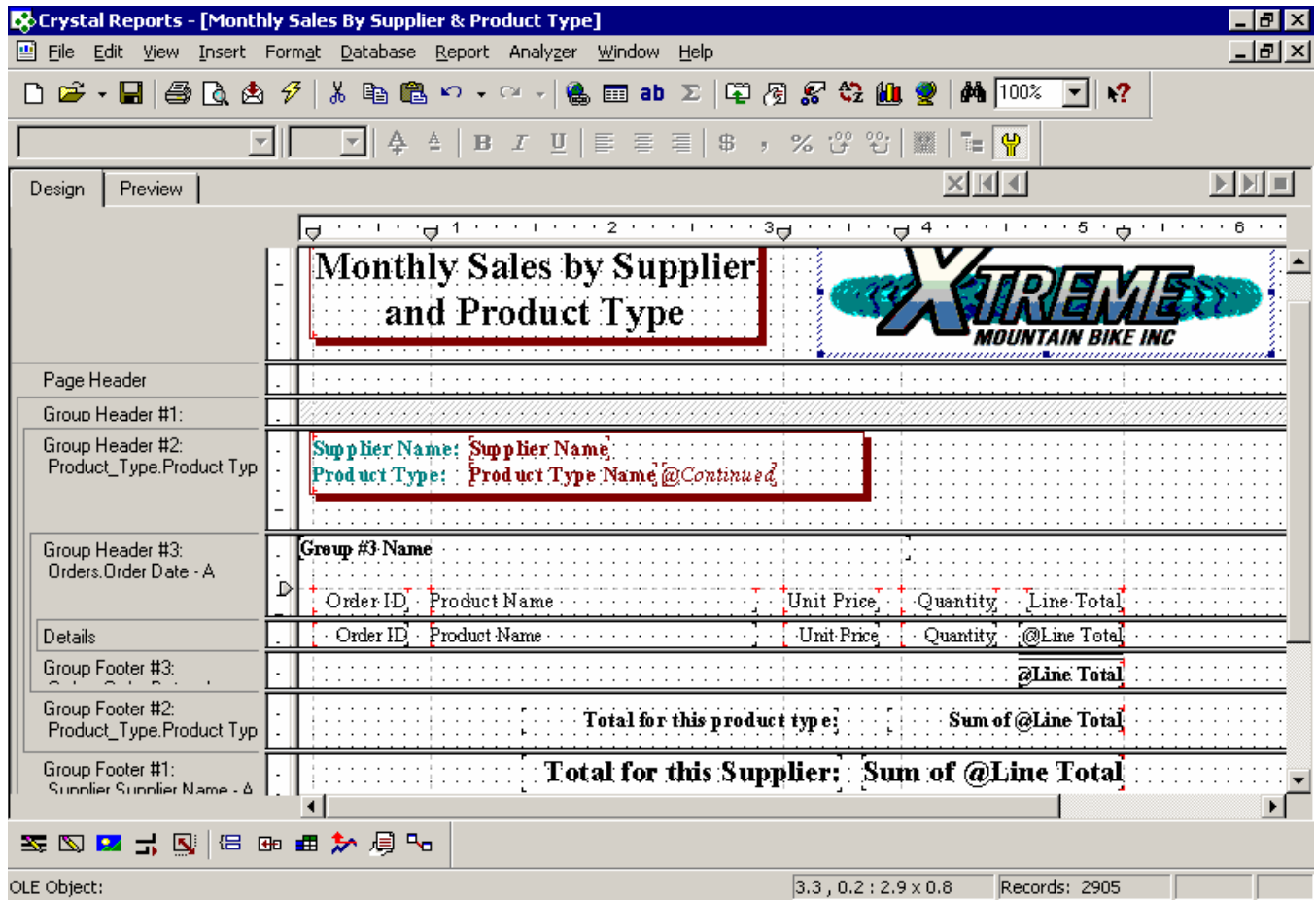
Lesson 1: Refresher Exercise

3. Delete the Group #1 Name and Group #2 Name fields from Group Headers #1 and #2
4. Using the sample report, and the hints listed above, create a text box in Group Header #2. Type the text **Supplier:** then add the Supplier Name field. Type the text **Product Type:** then add the Product Type Name field. See the sample on page 16 for final formatting.
HINT: format the text object border rather than drawing a box around the object. It is easier and you only have one object to deal with.
5. After you have done the above work with the group headers, you can hide Group Header #1. It no longer contains anything you need to see in the report.
6. Add a text box to the Group Footer #1 with the text **Total for this supplier:**. Move the summary field into the text object. Format the entire object to be bold, 14 pt., and right aligned. Add a text box to the Group Footer #2 with the text **Total for this product type:**. Move the summary field into the text object. Format the entire object to be bold and right aligned. Format the summary field in the Group Footer #3 section to have a top double line border. Make sure the summary field and text boxes are all snapped to the guideline on their right edges so they line up.
7. Snap the field titles to a horizontal guideline. Use the guideline to move the field names from the Page Header section to the Group Header #3 section under the Group #3 Name field. Format the titles so they have no underline.
This causes the field names to reprint with each month's data.
8. Format the Order ID field to display without a comma. Format the Unit Price field, the Line Total formula, and all the summary fields to have a floating \$.
HINT: Refer to the bullets on the previous page for directions on how to format the summary fields inside the text boxes.
9. Depending on how you have the default formats set for Date Time fields; you may need to reformat the Group #3 Name fields. The date should look like this: **January 98.**
10. Add a text box to the left of the Page Footer. Use Special fields to indicate page N of M. Add another text box to the right of the page footer that reads **Order information as of.** Add the Data Date special field after the text. Format both boxes to be italics.
11. To add the word "Continued..." for a product or supplier group that is continued on an additional page, place the @Continued formula field in the text object that contains the Supplier and Product Names.

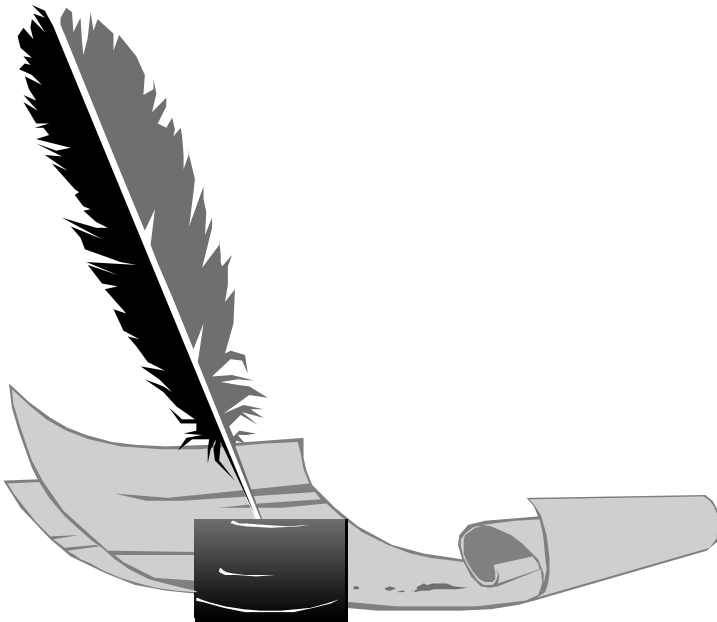
Lesson 1: Refresher Exercise

12. Save and preview the report. Do not forget that you can navigate easily through the report using the Group Tree section at the left of the screen. Just click the group you want to view. Close the report.

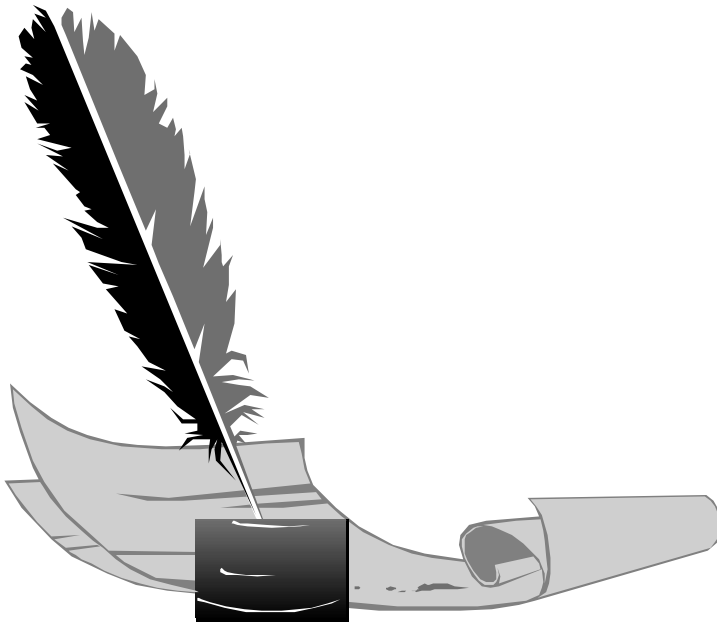
The Design view of the report should be similar to the following illustration:



NOTES



NOTES



Lesson

Using the Excel And Access Add-Ins

Lesson 2: Using the Excel and Access Add-Ins

Lesson Objectives

After completing this lesson, you will be able to:

- **Load the Add-ins**
Learn how to tell if the Add-ins are already loaded and how to load them if they are not.
- **Start a report from Excel**
Use the Excel Add-in to create a report from within the Excel application.
- **Start a report from Access**
Use the Access Add-in to create a report from within the Microsoft Access application.

Lesson 2: Using the Excel and Access Add-Ins

Understanding the Crystal Reports Add-Ins

Crystal Reports uses Microsoft's Add-In ability to provide a report creation wizard for both Microsoft Excel and Microsoft Access. This allows you to create a Crystal Report without leaving Excel or Access.

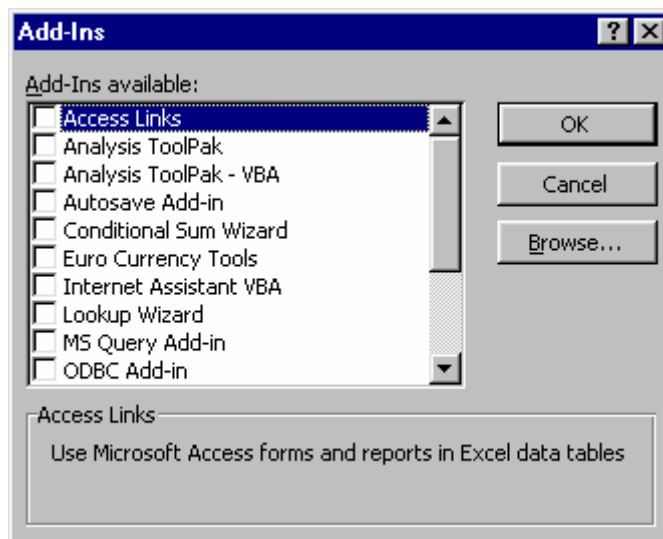
If you already have Microsoft Excel and/or Microsoft Access installed on your computer when you run the setup program for Crystal Reports version 8.5, Crystal Reports then installs the Add-Ins for you automatically. All you have to do is open the spreadsheet or database you want and choose the correct command or click the appropriate button.


If you install Excel or Access *after* you have installed Crystal Reports 8.5, then you must install the Add-Ins using the Microsoft Add-In Manager in the Excel or Access application.

Installing the Microsoft Excel Add-In

To install the Report Creation Wizard in Excel, use the following procedure:

1. Choose Tools/Add-Ins...



2. Click the **Browse...** button.
3. Go to the \Program Files\Seagate Software\Report Designer Component folder, then select the **crptxls.xls** file, then click  **OK**

Crystal adds a Crystal Report Wizard option to the Tools menu and a button to the toolbar.

*Lesson 2: Using the Excel and Access Add-Ins***Installing the Microsoft Access Add-In**

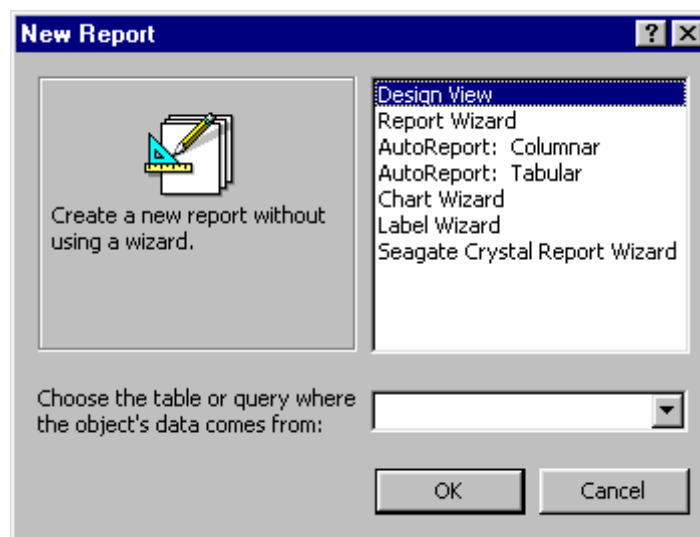
To install the Report Creation Wizard in Access, use the following procedure:

1. Choose Tools/Add-Ins/Add-In Manager...
2. Click the **Add New** button.
3. Go to the /Program Files/Seagate Software/Report Designer Component folder, then select the **crptaccwz2k.mde** file. Then click the **Open** button.

*If you have Microsoft Access 97 installed, select **crptaccwz97.mde** instead.*

4. Click the **Close** button.

After you install the Add-In, a Crystal Report command is added to the Tools/Add-Ins menu. You can also go to the Reports objects and create a new report. Crystal Report Wizard is available from the New Report list.




WARNING: *The Add-Ins only work with Office 97 and Office 2000 versions of Excel and Access.*

Creating a Report in Excel

To create a Crystal Report from Microsoft Excel, you must first have a spreadsheet open with some information that is arranged in columns and rows like a database table. The first row should contain field names, with following rows displaying the appropriate data.


Lesson 2: Using the Excel and Access Add-Ins

You can then start the Crystal Reports Wizard in one of two ways:


- Choose Tools/Crystal Report Wizard from the menu
- Click the Crystal Report Wizard button in the toolbar 




At the first screen, the Wizard prompts you to select the cell range that contains the data on which you want to report. You can type the cell range, using the standard Excel method for naming a range, for example A1:E28.

You can also click the  button to get to the spreadsheet, and then select the range by dragging it with the mouse. When you get to the spreadsheet, the Crystal Report Wizard bar displays.

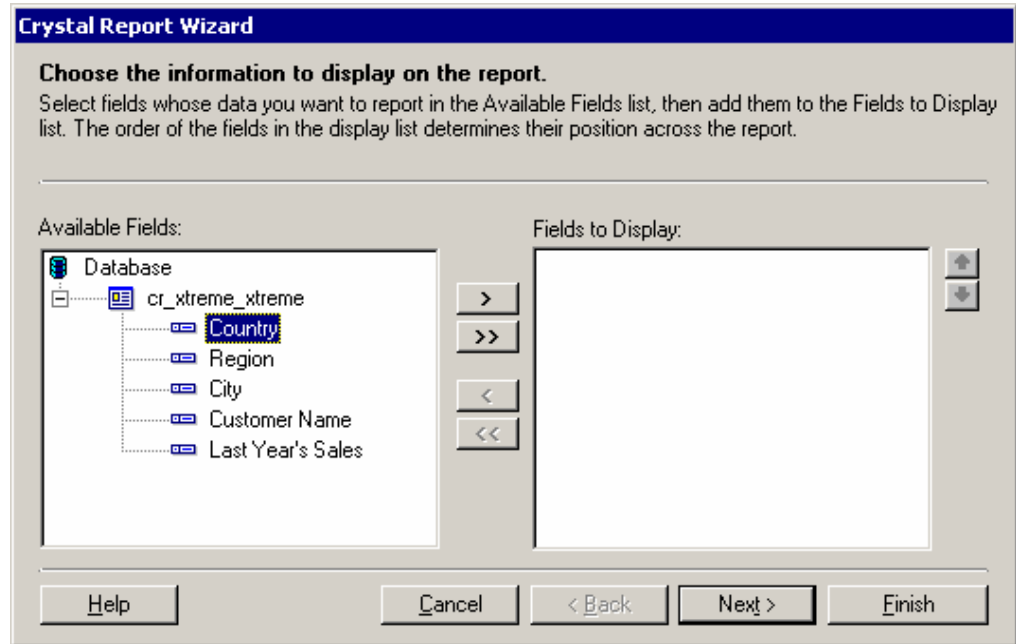


Just drag across the range of cells you want to see in the report, and then click the  button on the bar. The Wizard returns you to the first screen with the range you selected displaying in the cell range box.

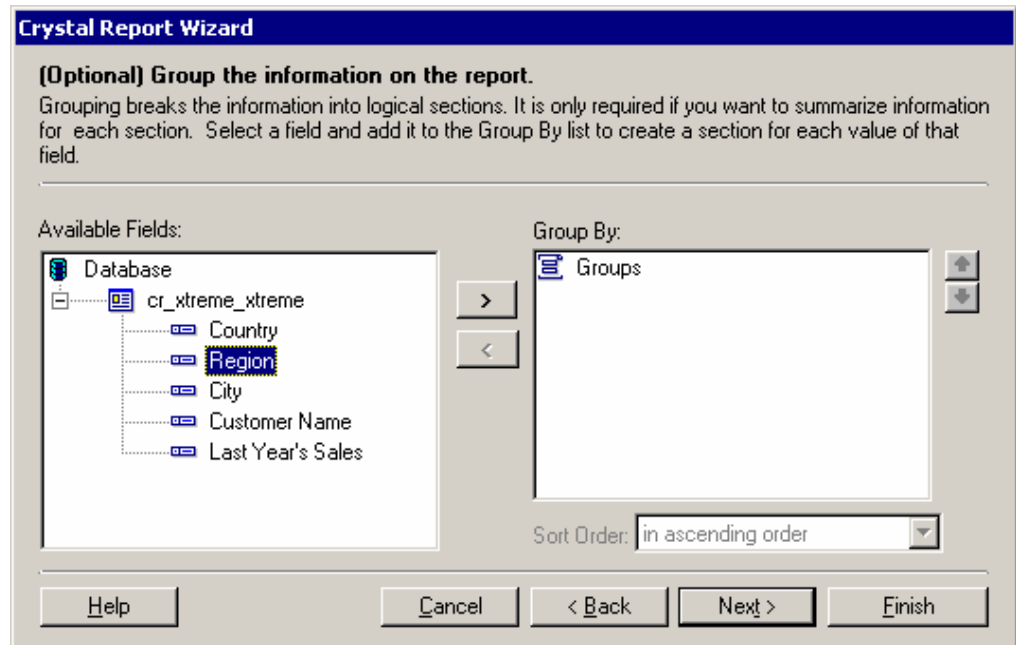
If you have many rows of data, you can select only a few rows, then return to the Wizard. Then click the  button. The Wizard automatically expands the range to include all rows of data.

Once you have selected a range of cells with the data you want to include in the report, click the **Create Crystal Report** button.

Lesson 2: Using the Excel and Access Add-Ins

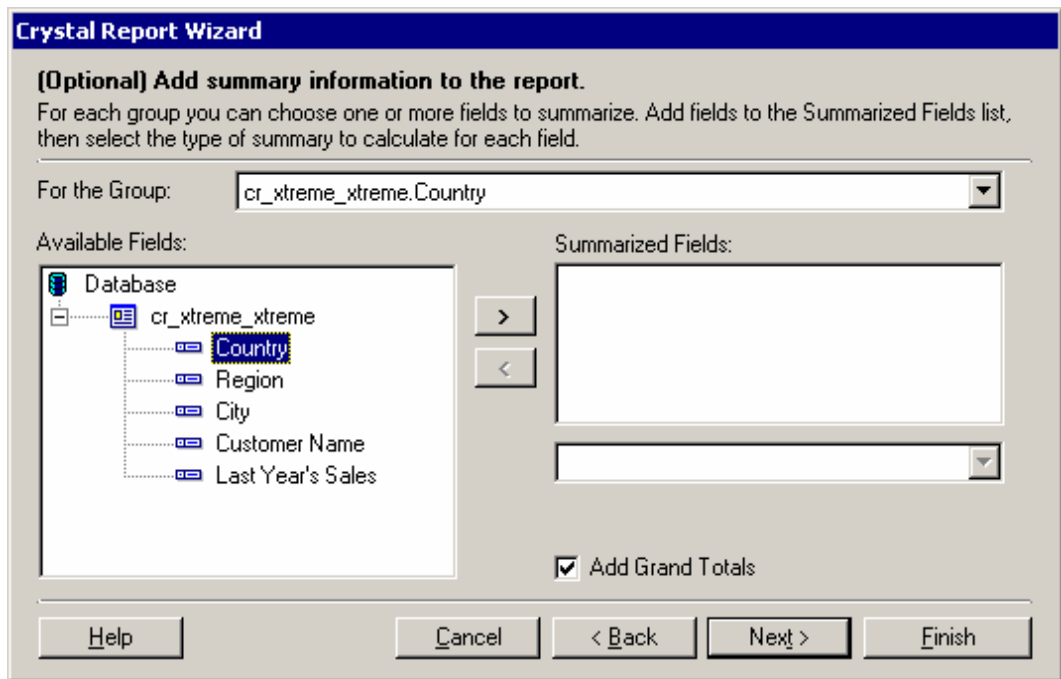


In the second screen of the Wizard, you can choose which columns of data you want to include in the report. Select the fields you want, and then add them by clicking the **>** button. You can add all fields by clicking the **>>** button. Remove fields by clicking the **<** or **<<** buttons. When you are finished with each screen, click **Next >** to move to the next screen.

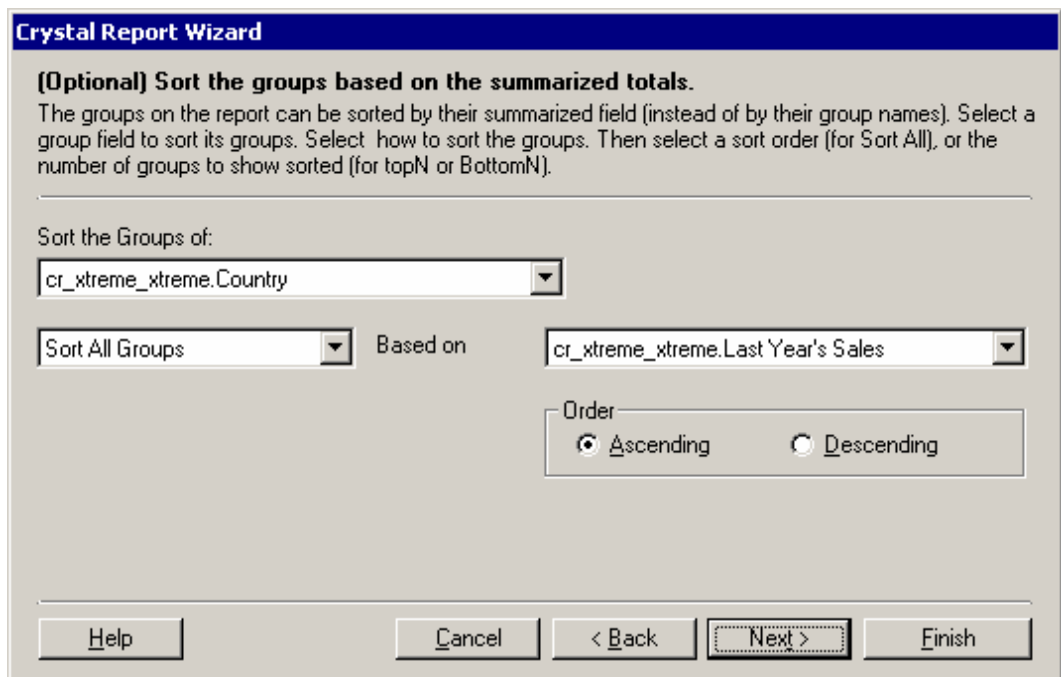


Lesson 2: Using the Excel and Access Add-Ins

Here you choose the field(s) by which you want to group the report. Select the field, then click the **>** button to add it to the *Group By:* list.

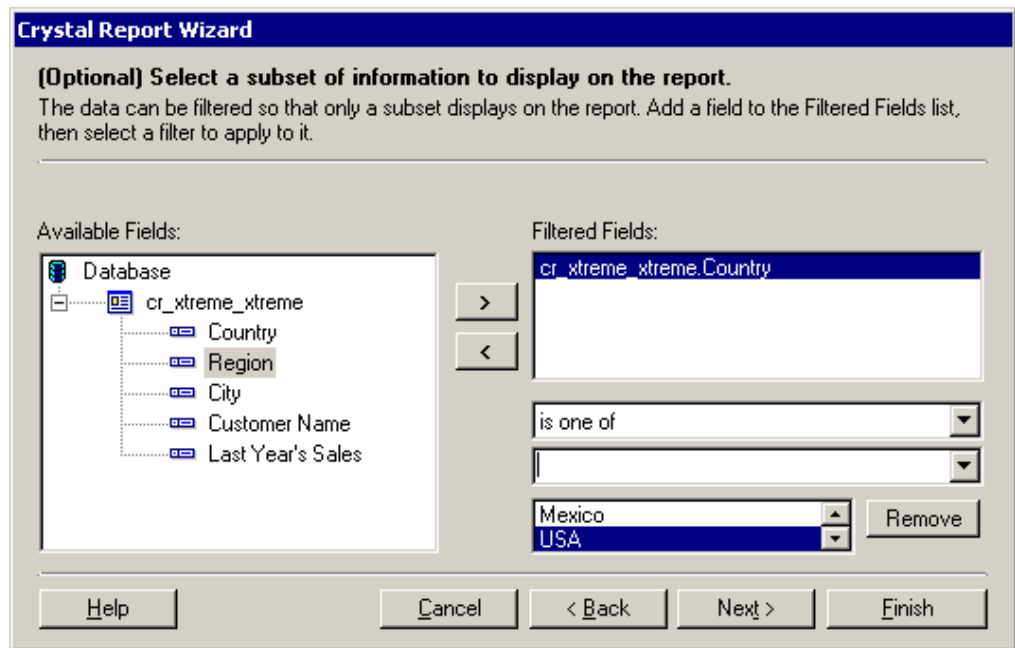


The next screen lets you create any of the summary fields you want in the report. Again, you select the field you want to summarize, then click the **>** button. Then drop down the operators list to choose the type of summary you want. You can also add Grand Totals.

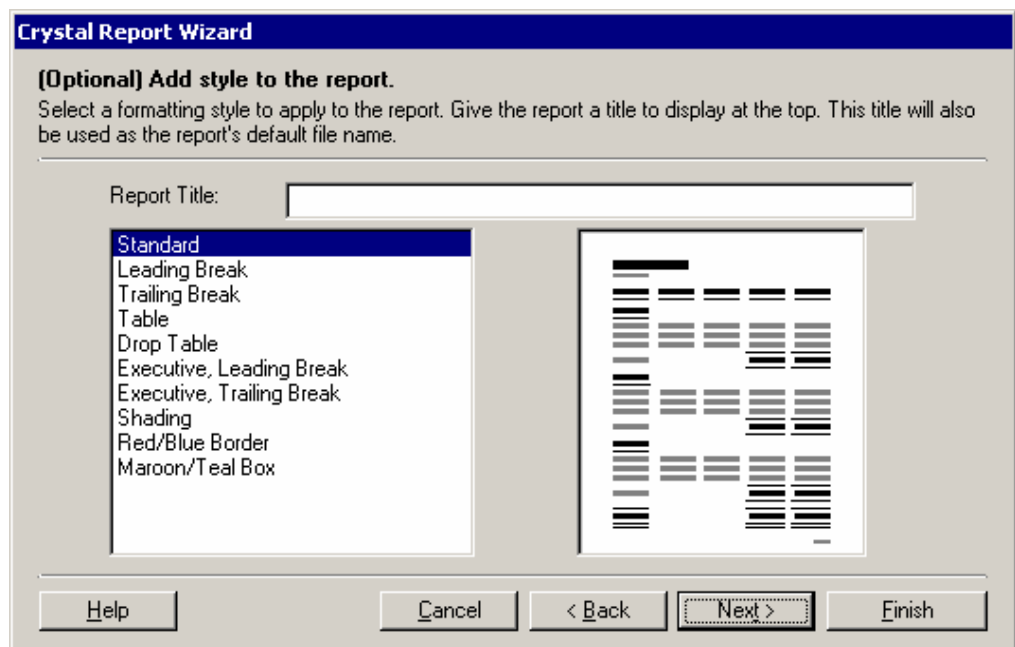


Lesson 2: Using the Excel and Access Add-Ins

The next Wizard screen lets you do TopN or BottomN group selection. It works just like the TopN Expert in Crystal Reports.

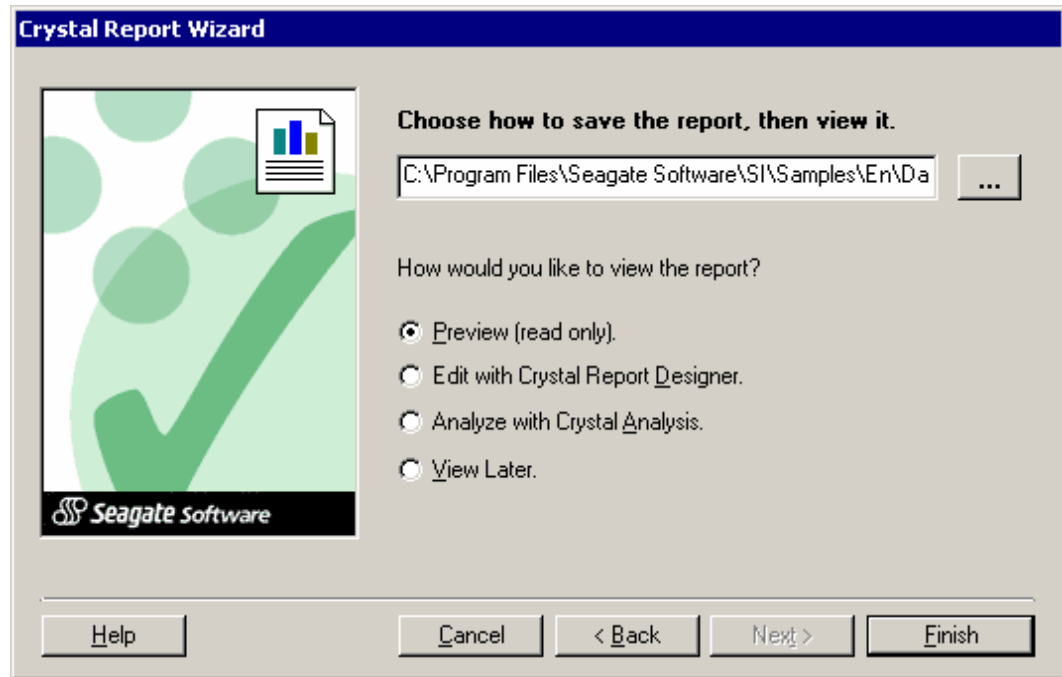


Next you see a screen where you can define selection or filtering. Choose the field you want to filter on then add it to the list and set up comparison criteria.



Now you can select a default style for the report and define a report title.

Lesson 2: Using the Excel and Access Add-Ins



At the last screen of the Wizard, you specify the file name and location, and then tell the Wizard how you would like to view the report.

- *Preview (read only)* opens the report in the ActiveX viewer. You can see, print, and refresh the data from this viewer, but you cannot modify the report design.
- *Edit with Crystal Report Designer* displays the report in Crystal Reports. You have full capability to edit the report from here.
- *Analyze with Crystal Analysis* opens the report in the Analysis program. You can edit the query results from here and have some formatting capabilities.
- *View Later* simply saves the report

❖ Exercise – Create a Report from Microsoft Excel

1. Open Microsoft Excel. Then open the following file: **C:\Program Files\Seagate Software\Crystal Reports\Samples\Databases\Xtreme.xls**.











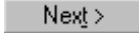

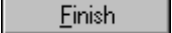
2. Choose **T**ools/Crystal Report Wizard
or

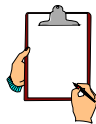
Click the Crystal Report Wizard in the toolbar 

3. Click the  button.

The Wizard returns you to the spreadsheet.

Lesson 2: Using the Excel and Access Add-Ins

4. Select cells A6 through E9 by dragging across them with the mouse. Then click the  button in the Crystal Report Wizard bar. *The Wizard returns you to the first screen with the cell range in the text box.*
5. Click the  button to expand the range automatically, then click 
6. Select the Customer Name field, then click . Add the City field, then Region, then Country, then Last Year's Sales. Then click 
7. Select the Country field, then click . Click 
8. Summarize on the Last Year's Sales field using a sum operator. Add a Grand Total as well, then click 
9. You do not want to do any TopN sorting, so just click 
10. You only want to see countries from North America, so select the Country field, then click . Drop down the operators list and choose **is one of**. In this Wizard, there is no list from which to select values, you have to type them. Type **Canada**, then press ENTER. Enter **Mexico**, then enter **USA**, then click 
11. Enter a title that reads **North America Customers , Last Year's Sales**. Select a style of your choice. Then click 
12. On the last screen, edit the path name to read **C:\Program Files\Seagate Software\Crystal Reports\Training\LYS North America**. Click the *Edit with Crystal Report Designer* button, then click . *The Wizard opens the file in Crystal Reports in Design view.*
13. Preview the report. Delete the User Name, then press ENTER. Close the report and save it.



NOTE: *The Excel spreadsheet for the report accesses must be open in order to refresh the data.*



WARNING: *Reports created using the Add-ins automatically use the default file options (ie. DateTime field formats, fonts, and full size page preview) and cannot be changed regardless of whether or not customized settings have been set.*

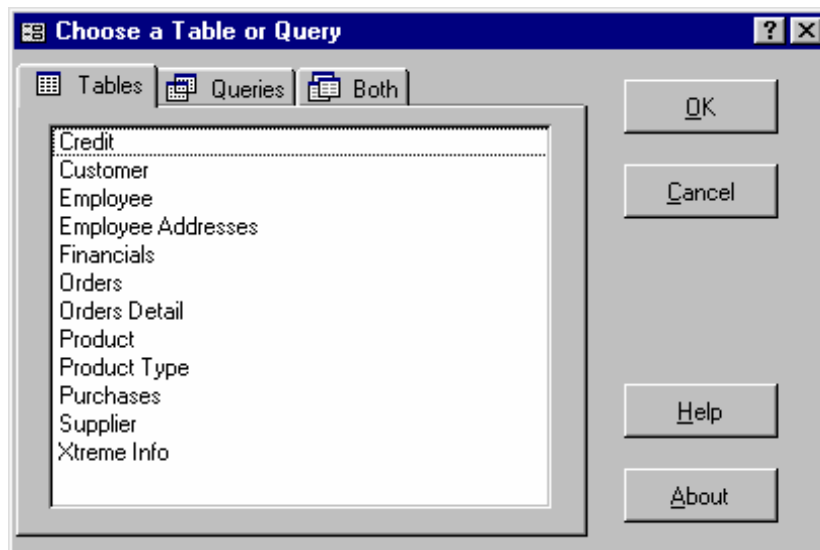
Lesson 2: Using the Excel and Access Add-Ins

Creating a Report in Access

Before you can use the Crystal Reports Wizard, you must have a database open. Then, you can start a Crystal Report from Access in two different ways:

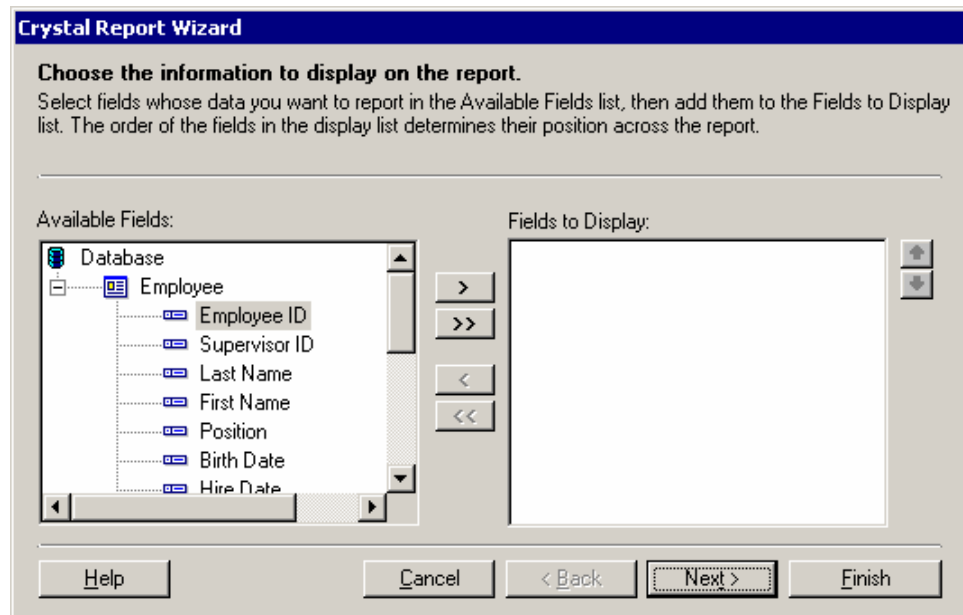
- On the Tools menu, choose Add-Ins, and then choose Crystal Report.
- Choose the Reports object, and then begin a new report. Crystal Reports Wizard appears as a choice on the list of report wizards.

The Wizard prompts you to choose a table, unless you already have one selected in the Database window when you open the Wizard.

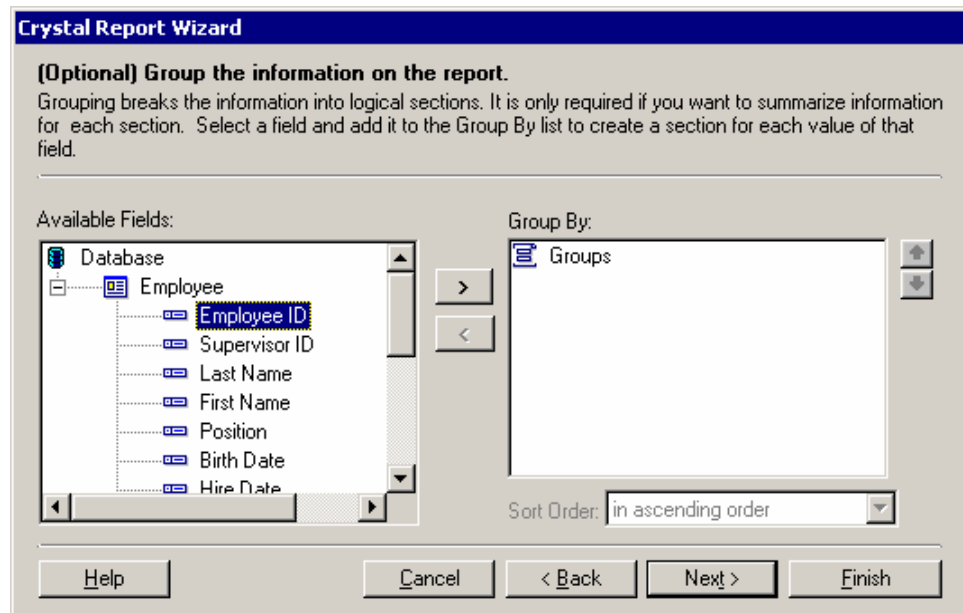


You can only choose one table from here. Additional tables must be added in Crystal Reports Design view when the wizard is completed. Once you pick a table, the Wizard begins, start with a dialog box that let's you add fields to the report.

Lesson 2: Using the Excel and Access Add-Ins

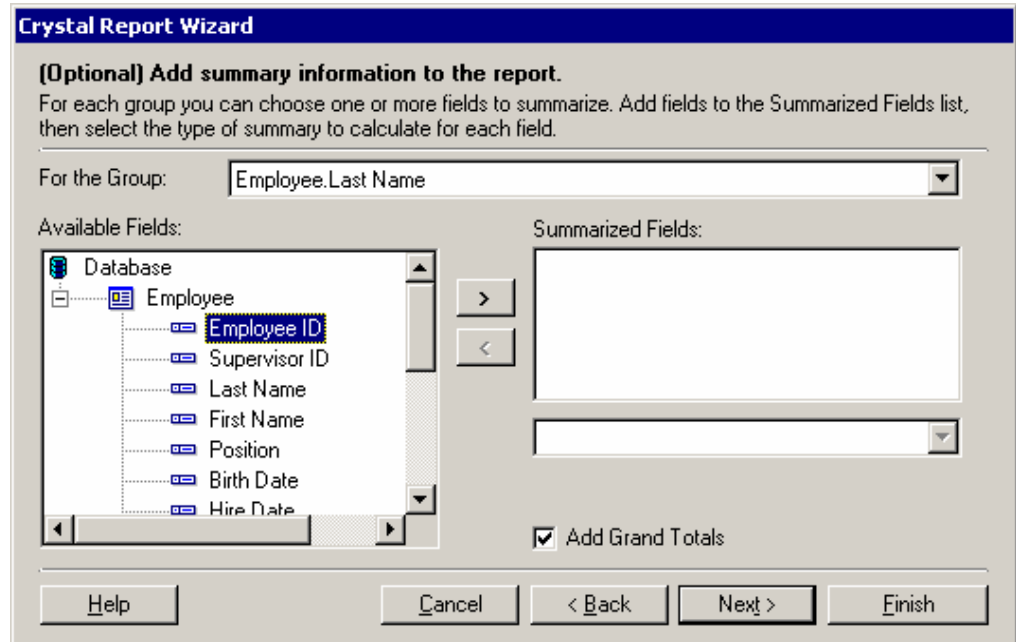


In this screen, select the fields you want to appear on the report, and then add them by clicking the > button. You can add all the fields by clicking the >> button. Remove fields by clicking the < or << buttons. When you are finished with each screen, click Next > to move to the next screen.

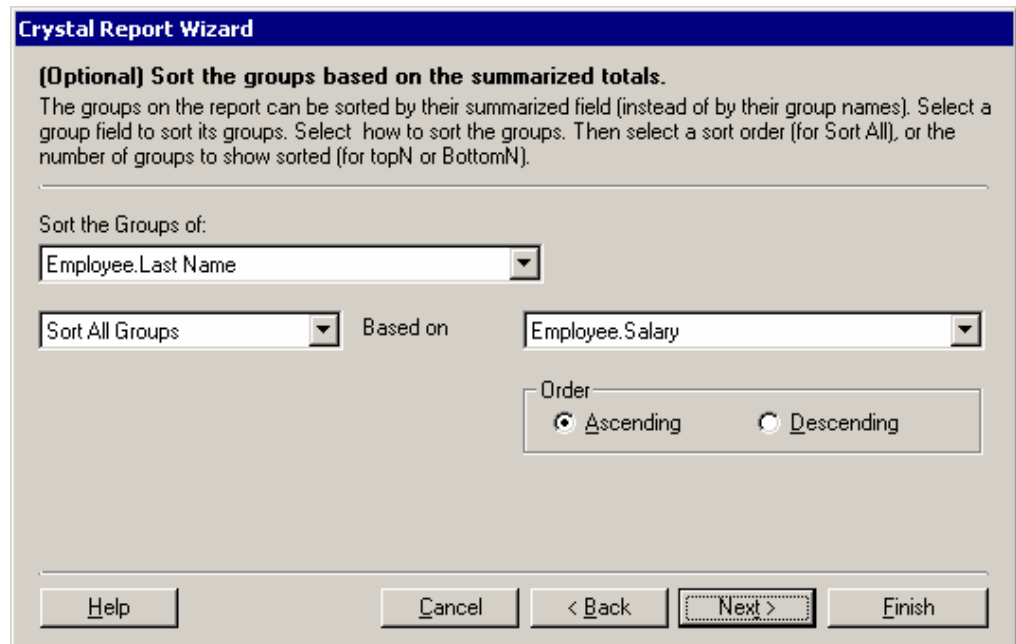


Here, you can specify a field on which to group and the order of the grouping.

Lesson 2: Using the Excel and Access Add-Ins

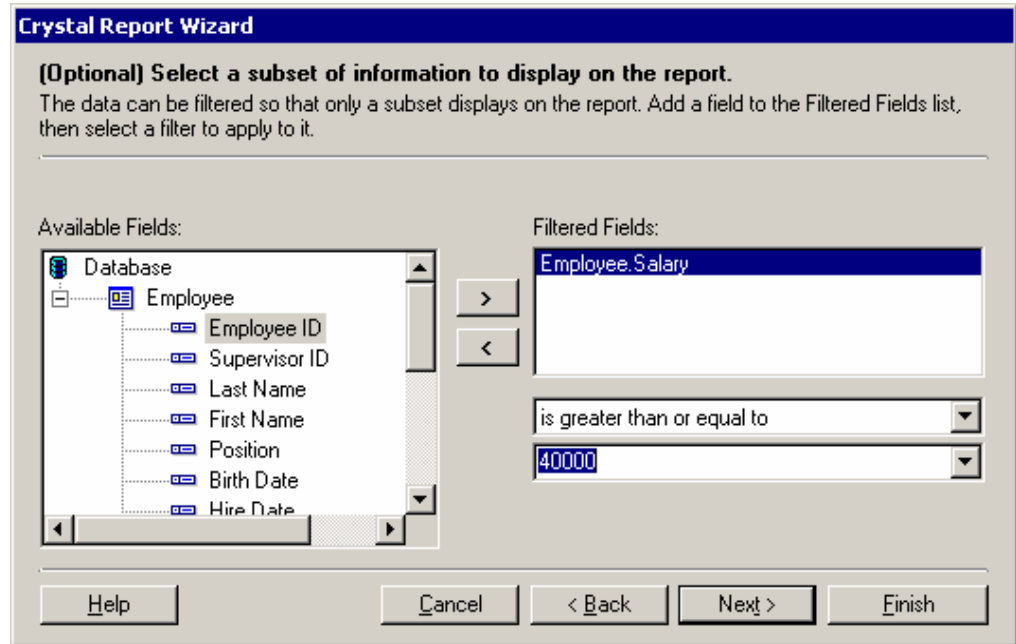


The next screen lets you create any of the summary fields you want in the report. Again, you select the field you want to summarize, then click the **>** button. Then drop down the operators list to choose the type of summary you want. You can also add Grand Totals.

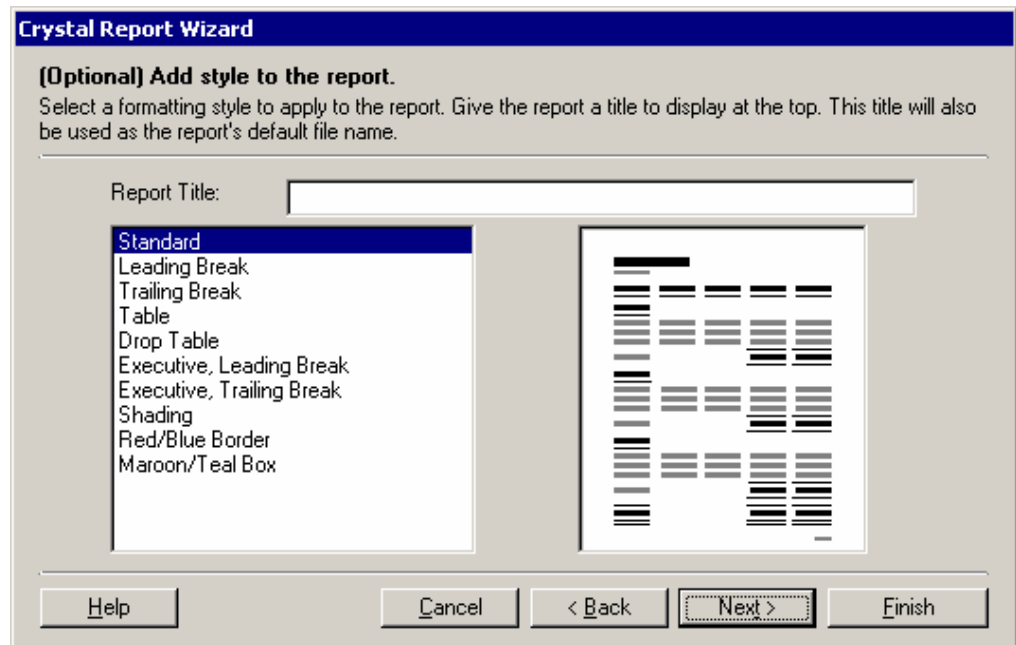


The next Wizard screen lets you do TopN or BottomN group selection. It works just like the TopN Expert in Crystal Reports.

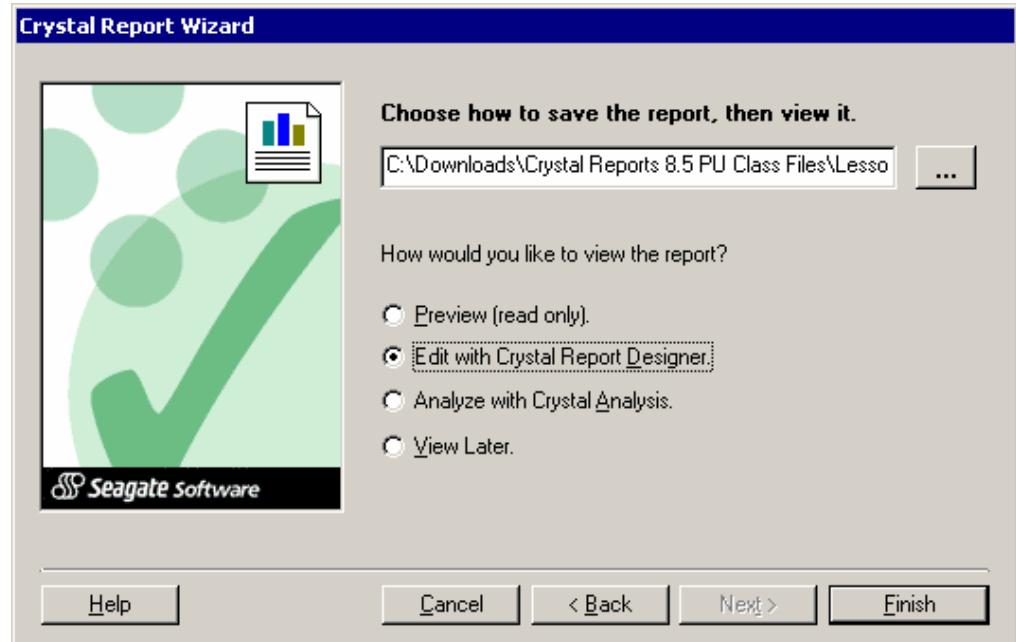
Lesson 2: Using the Excel and Access Add-Ins



The next screen allows you to add filtering or selection criteria. Choose the field on which you want to select, and then drop down the operator box to choose a selection operator. You can then fill in the criteria box by typing the example you want to compare to. NOTE: This criteria box is not like the one in Crystal Reports. You cannot see a browse list by clicking the drop-down arrow. You must type the example.



Here, you can select a report style and add a title to the report.

Lesson 2: Using the Excel and Access Add-Ins

At the last screen of the Wizard, you specify the file name and location, and then tell the Wizard how you would like to view the report.

- Preview (read only) opens the report in the ActiveX viewer. You can see, print, and refresh the data from this viewer, but you cannot modify the report design.
- Edit with Crystal Report Designer displays the report in Crystal Reports. You have full capability to edit the report from here.
- Analyze with Crystal Analysis opens the report in the Analysis program. You can edit the query results from here and have some formatting capabilities.
- View Later simply saves the report

❖ Exercise – Create a Report from Microsoft Access

1. Open Microsoft Access. From the opening dialog box, select the *Open an existing file* radio button and select **More Files...** from the list. Click the button.
2. Go to the /Program Files/Seagate Software/Crystal Reports/Samples/Databases folder. Select the **xtreme.mdb** file, then click .

Depending on the version of Access you are using, you may need to convert the database. If so, convert it and name it Xtreme2000.mdb.
3. In the Database window, select the **Employee** table.
4. Choose Tools/Add-Ins/Crystal Report Wizard

Lesson 2: Using the Excel and Access Add-Ins

5. Add the following fields to the report: Employee ID, First Name, Last Name, Position, Salary, and Reports To. Then click
6. You are not going to set up a group in this report, so just click
If you did set up a group, you would see the Summary screen and the TopN screen, just as you did in the Excel Wizard. You do not see them here because you did not create a group.
7. In the *Available Fields:* list, select the **Salary** field, and then click .
Set this to be greater than or equal to 40000. Then click
8. Select a **Standard** report style. In the *Report Title:* box type **Employee Listing**. Then click
9. Save the report in the C:\Program Files\Seagate Software\Crystal Reports\Training folder and name it **Employee Listing**. Click the *Edit with Crystal Report Designer* radio button, then click
The Wizard opens the report in Crystal Reports for editing.
10. Preview the report, then save it and close it.

Section 2:

Using Power Tools to Create Advanced Reports

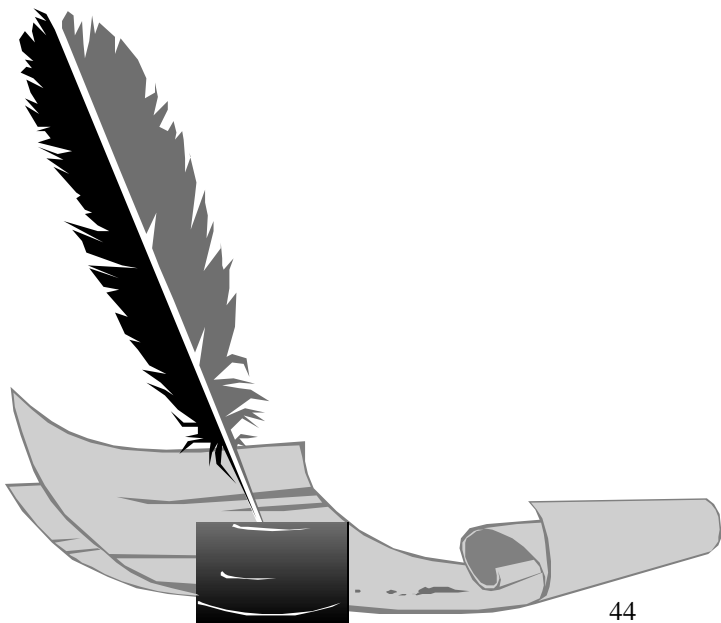
Lesson 3: Power Formatting with Multiple Sections

Lesson: 4: Working with Cross-tabs

Lesson 5: Using the Running Totals Feature

Lesson 6: Prompting with Parameters

NOTES



Lesson



Power Formatting with

Multiple Sections

Lesson 3: Power Formatting with Multiple Sections

Lesson Objectives

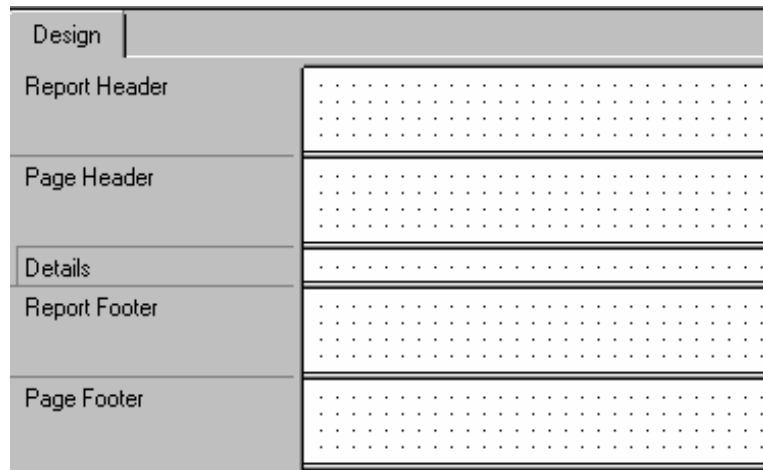
After completing this lesson, you will be able to:

- Create multiple sections
Expand your formatting power by learning how to add sections to the report.
- Underlay a section
Display a graphic or chart beside the data it represents by underlaying following sections under a section.
- Use multiple sections for conditional formatting
Add additional sections that only display under certain conditions.

Lesson 3: Power Formatting with Multiple Sections

Using Multiple Sections in Reports

By default, Crystal Reports gives you five design areas to use when building your report: Report Header, Page Header, Details, Report Footer, and Page Footer.



Each area contains only a single section when you first begin your report. There are certain reporting tasks that you can perform most efficiently by creating multiple sections within an area, such as:

- Putting conditional messages in form letters
- Formatting objects/sections differently based on field values
- Alternating background colors on a row-by-row basis
- Eliminating blank lines when fields are empty
- Adding blank lines under specific conditions

When you understand the power of multiple sections, you discover many ways that you can use them to produce the report effects you want. Following are some ideas for using multiple sections:

Suppose you want to display current order amounts in the Details section. If the customer has outstanding amounts you want to display them as well. You add an additional Details section b, and conditionally format to display only if there are outstanding order amounts.

Lesson 3: Power Formatting with Multiple Sections

You are printing an employee listing grouped by Employee Name. You have information on each employee, including address, telephone, start date, and sales for the last month. You also have a field that displays the employee's picture that you want to display beside the printed data. You cannot put it in the Employee Name group header because it prints above the rest of the data and takes up too much space. So you create a second group header section, put the picture there, and then underlay the second section under the Details for each employee.


You need a single page summary report of the top twenty customers. Included in the report, you need a graph that shows each region's percent of total sales. There is not enough room to print the graph above or below the customer listing. Put the graph in a Report Header b section and underlay it under the Details section to print the graph beside the data.

Your report prints customer invoices and a list of the orders in the last month. You want to include a nice letter to thank paid up customers for keeping their account current. For overdue customers, you want a more forceful letter asking them for payment. You can create two Group Header sections and conditionally suppress each one depending on the condition of the account. The Detail section would show all orders that have not been paid along with their due dates.

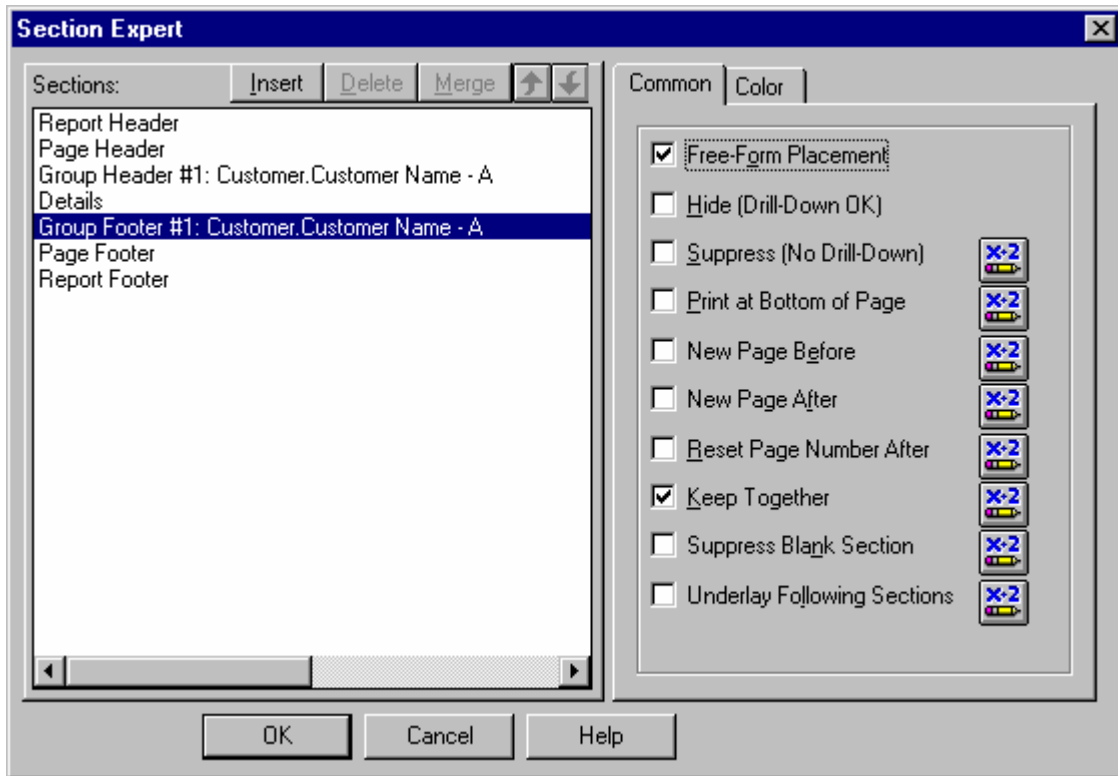
These are only some ideas for using multiple sections. You are going to try some of these ideas in following exercises.

Using the Section Expert to Work with Sections

In the Section Expert, you can easily insert, merge and delete sections. You can also move sections within an area and conditionally format sections. Remember, you can open the Section Expert in three ways:

- Choose **Format/Section...**
- Click the Section Expert button 
- **RIGHT** click the section name you want to format, then choose **Format Section...** from the shortcut menu

Lesson 3: Power Formatting with Multiple Sections



In the Section Expert, you can select the area with which you want to work in the *Section:* list, and then click the Insert, Delete, or Merge buttons to manipulate additional sections in that area. The arrow buttons allow you to move sections within an area.

You can also perform all these section procedures from the Section shortcut menu. RIGHT click on the left side of the screen where you see the section name of the section you wish to change. The shortcut menu contains commands for inserting, merging, deleting and moving sections.

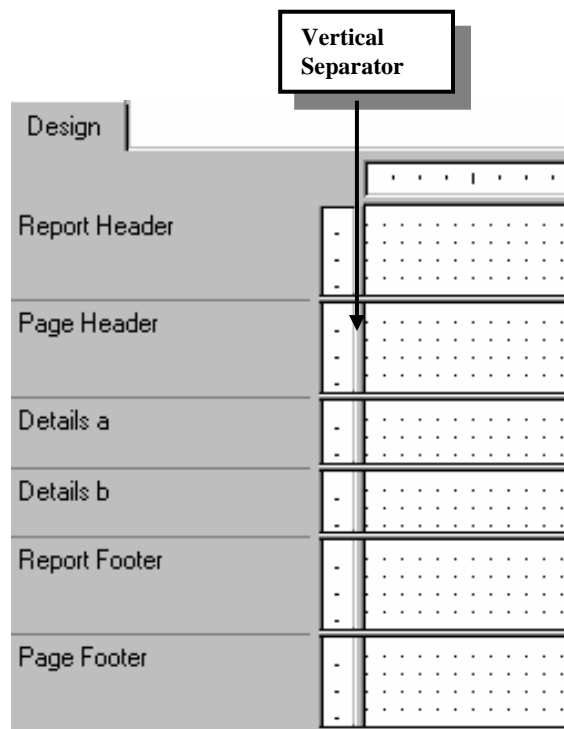
Details a
Hide (Drill-Down OK)
Format Section...
Insert Line
Delete Last Line
Arrange Lines
Fit Section
Insert Section Below
Merge Section Below
Move Section...
Delete Section
Cancel Menu

Lesson 3: Power Formatting with Multiple Sections



WARNING: *If there is currently only one section in an area, the Merge, Move and Delete commands do not display. You only see the Merge command if you RIGHT click on a section that has another section of the same type below it.*

Crystal Reports has a true shortcut for inserting a section below an existing section. Left click on the vertical separator bar in the section you wish to add. Hold down the mouse button until the mouse pointer changes to a double-headed arrow with a single line horizontally separating the arrows. Drag the line up or down and release. This method of inserting a new section keeps all the formatting from the section above.



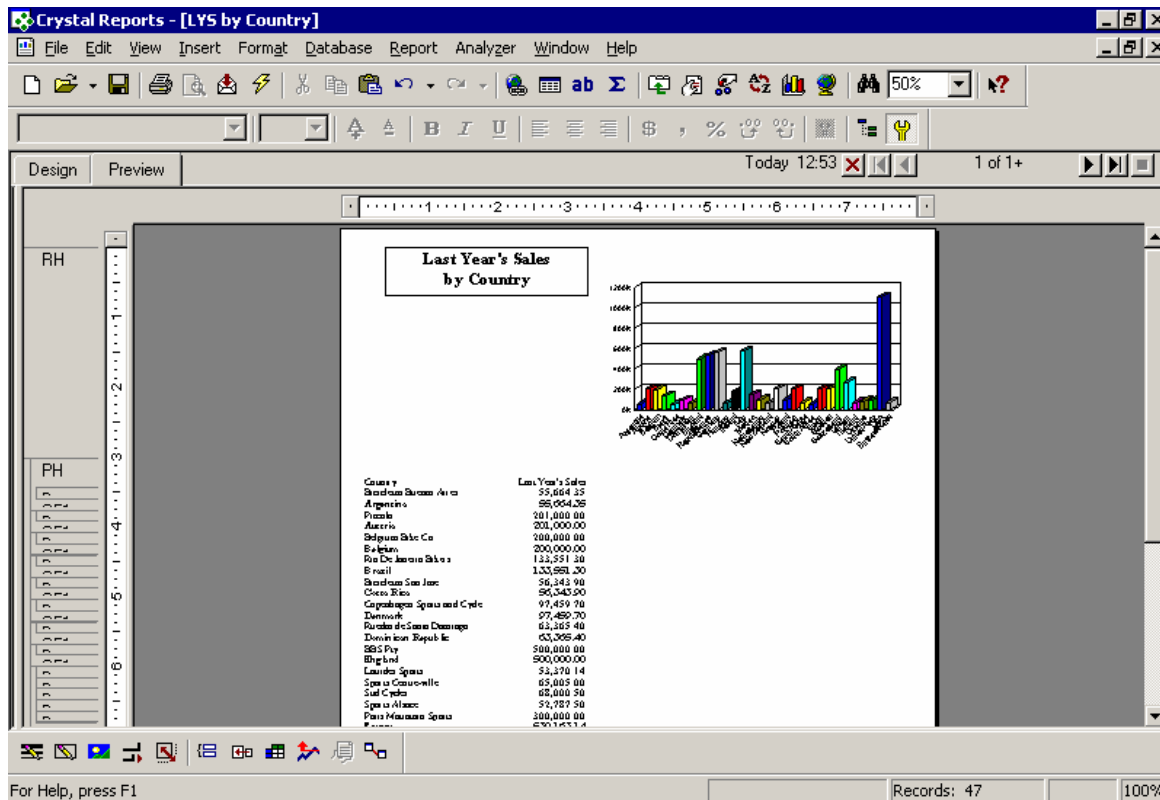
❖ **Exercise – Insert an Additional Report Header Section**

1. Create a report of Last Year’s Sales by Country using the Top Customer table in the Xtreme Sample database. Save and name the report **LYS by Country**.
2. Group by Country.
3. Insert the Customer Name and Last Year’s Sales fields into the Detail section. Shorten the fields and move them to the left side of the report.
4. Summarize the Last Year’s Sales field. Move the Group #1 Name field from the Group Header into the Group Footer.

Lesson 3: Power Formatting with Multiple Sections

5. Change the column title for the Customer Name to Country.
6. Hide the Group Header #1 section and the Details section.
7. Place a text object into the Report Header section with the title Last Year's Sales by Country. Format the title like the illustration below.
8. Place a Bar Chart in the Report Header. Graph the groups on change of Country. The value should be the Sum of Last Year's Sales.
9. Turn off Automatically set chart options in the Type tab. In the Options tab, set the Bar size to average, turn off the Legend. In the Text tab, turn off all Auto-Text titles and delete all the text in the labels. When finished, insert the graph.
10. After Crystal Reports places the graph in the report, move it to the right.
11. Save and preview the report.

The report should be similar to the following illustration:



Lesson 3: Power Formatting with Multiple Sections

The report would look better if the graph displayed beside the records. You can underlay the Report Header to accomplish this. However, if you underlay the entire Report Header, then the title also displays under the customer information. To resolve this issue, you can create an additional Report Header section, place the graph in the additional section, and underlay only that section. The title remains in Report Header a, displaying above the data. The graph in Report Header b displays beside the data because you under laid the data following it.

12. Return to Design view.

13. Click the vertical separator in the Report Header section.

When you hold down the mouse button, the mouse pointer changes to a horizontal line with a double-headed arrow.

14. Drag the mouse pointer until the shadow line displays just under the report title.

The title now displays in Report Header a and the graph in Report Header b.

❖ Exercise – Underlay a Section

1. RIGHT click the section name for Report Header b, then choose Format Section...

2. Click the *Underlay Following Sections* check box, then click

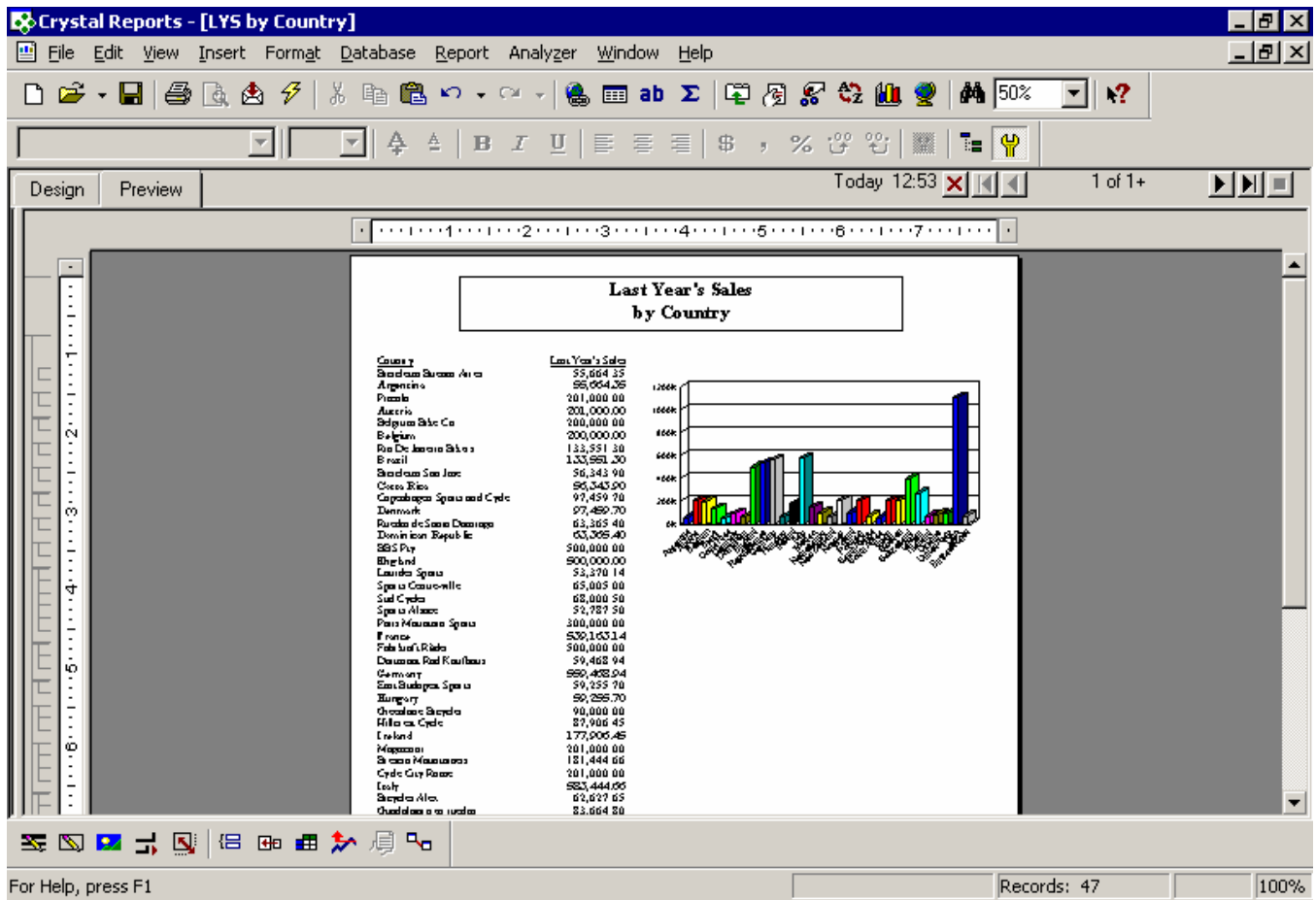


3. The use of a second Report Header section also lets you center the report title without the under laid text printing on top of it. Move the title text object to center it approximately on the report page.

4. Save and preview the report.

Lesson 3: Power Formatting with Multiple Sections

The report should look like the following illustration:



Conditionally Formatting Multiple Sections


Now that you have a nice looking sales summary report, suppose you want to include a congratulations message to those countries' sales reps that collectively sold more than \$500,000. You want to display the message directly under the name and sales figure for the county.

The Country name and sales figure are in the Group Footer section. If you put the message in either section below that it will not display where you want. If you put it in the Group Footer under the name and summary field, the spacing is added to each group. The result is blank spaces where the message is suppressed.

To solve this problem, you can add another Group Footer section, add a text object with the message in Group Footer #1b, and then conditionally format to suppress this section if the Sum of Last Year's Sales field is less than 500000.

Lesson 3: Power Formatting with Multiple Sections

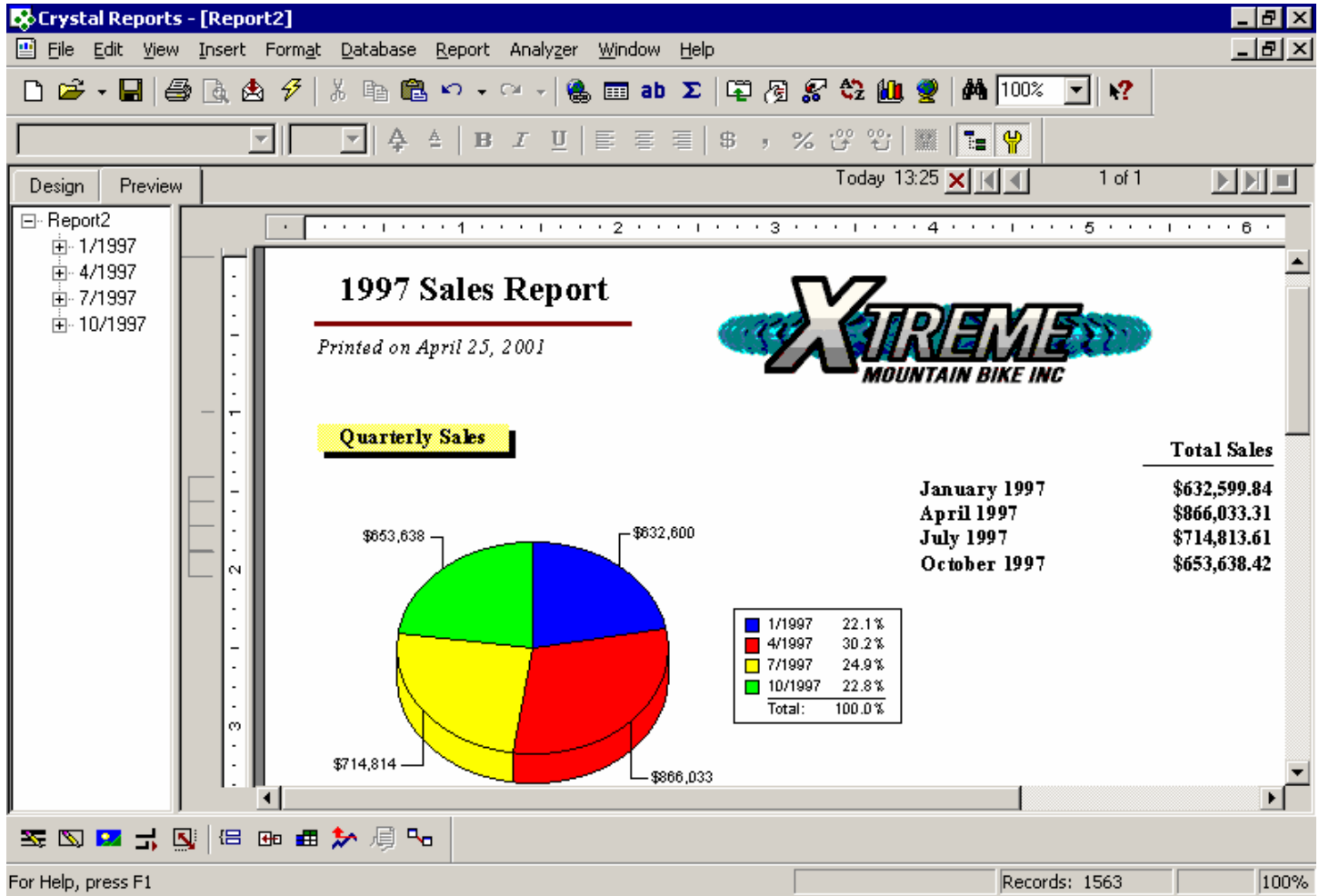
❖ **Exercise – Conditionally Format Multiple Sections**

1. Return to Design view.
2. RIGHT click the Group Footer #1 section name, then choose Insert Section Below.
3. Add a text object to the Group Footer #1 b section.
4. Type **Congratulations to the sales representatives for this country. You have each won an all expense paid trip to St. Thomas!**
5. RIGHT click the Group Footer #1 b section name, then choose Format Section.
6. Click the  button after the *Suppress (No Drill Down)* check box.
7. Enter the following formula:
Sum({Top_Customers.Last Year's Sales},{Top_Customers.Country}) < 500000
8. Accept the formula. Close the Section Expert. Save and preview the report.
The message should only appear for those countries that have a Sum of Last Year's Sales over \$500,000.
9. Close the report.

Lesson 3: Power Formatting with Multiple Sections

Challenge Exercise – Formatting with Multiple Sections

Suppose you need to create a Quarterly Sales report that shows the sales for last year (1997). This will be a summary report including a graph of the sales for each quarter and the sales totals for each employee. The finished report needs to look like the following illustration:



1. Start by creating a new report based on the Xtreme sample data. Add the Employee and Orders tables.
2. Insert a group on the Order Date field. Choose to print the group once for each quarter. Insert another group on the Last Name field.
3. Select only records in 1997 using the **between** operator.

Lesson 3: Power Formatting with Multiple Sections

4. Put the Order Date field and the Order Amount field into the Details section at the RIGHT side of the report.
5. Summarize the Order Amount field by Order Date (Group #1) and by Employee Last Name (Group #2). Format the summary fields to have currency symbols.
6. Move the Group #1 Name field into the Group Footer #1 and position it close to the summary field. You may need to resize it too. Do the same for the Group #2 Name field. Reformat the Group #1 Name field to look like the following: **January 1997**.
7. Add the title and the print date to the Report Header. Format them like the example above. Add the Xtreme logo to the Report Header.
Hint: Use two text boxes and draw a line between the two text boxes.
8. Suppress the Page Header and hide the Group Header sections, the Group Footer #2 section and Details section.
9. Now you are ready for the extra sections. You need to create a subtitle that you do not want to underlay. You also need to create a graph of the sales by quarter. This you do want to underlay so it appears beside the sales totals. Since both these items must appear only once on the report, you need to put them in the Report Header, so create two additional Report Header sections.
10. Add a text object to Report Header b with the subtitle **Quarterly Sales**. Format the text to match the sample on the previous page.
11. Add a pie chart that graphs the Order Date group on the Sum of Order Amount. On the Options tab, display the values and format them to look like currency with no decimals (\$1). Turn off all the Auto-text entries on the Text tab and delete any text.
12. Move the chart to the left of the Report Header c section and resize to be only 4" wide. Resize Report Header a to be about 1" tall.
13. Turn on the *Underlay following sections* command for Report Header c but not for Report Header b.
14. Finally you want to add a title for the quarterly sales figures. Add a text object to Report Header b that lines up with the Order Amount summary field. Type **Total Sales**. Format the box to be bold with a bottom single border.
HINT: Since the Order Amount summary field is a number and aligns on the right; use a guideline to align the text object and the summary field on their right edges. Right align the text in the text object.
15. Save this report and name it **Quarterly Sales**. Preview the report.


Lesson 3: Power Formatting with Multiple Sections

Challenge Exercise – Conditionally Formatting Multiple Sections

Suppose you also want to include a message in the report that congratulates all the sales reps with sales over \$120,000 for each quarter. The message only displays when the sales person drills down on the quarter to see employee sales for that quarter. You only want the message to appear under the employee names meet the top sales goals for that quarter. The results should look like this:

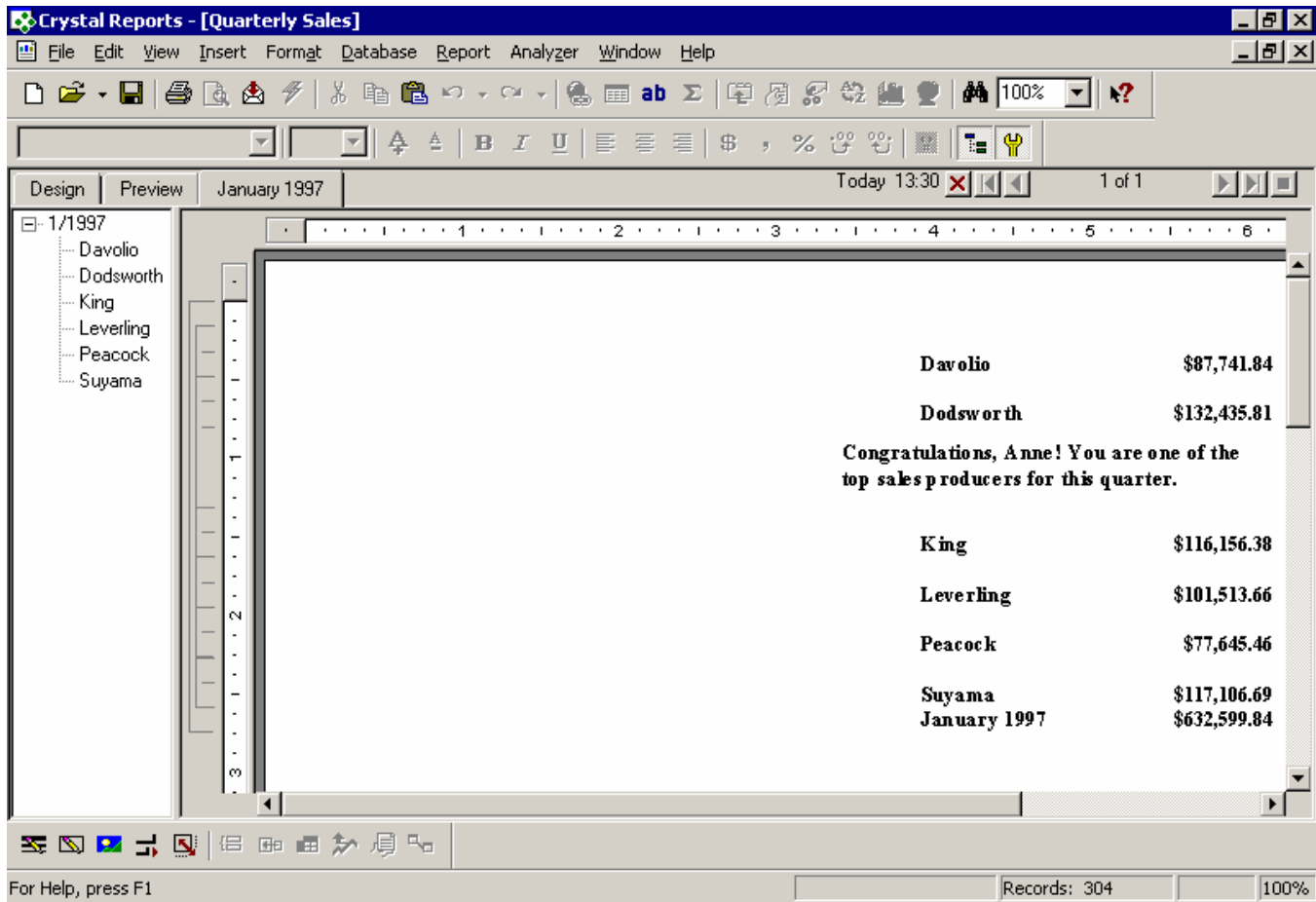
Davolio	\$97,995.14
Dodsworth	\$92,981.82
King	\$119,831.99
Leverling	\$101,586.31
Peacock	\$122,472.28
<p style="padding-left: 40px;">Congratulations, Margaret! You are one of the top sales producers for this quarter.</p>	
Suyama	\$118,770.88
October 1997	\$653,638.42

Since the sales per employee is a summary field, there is no way to compare it with summaries from other groups. So you need to add the message, then suppress it based on a combination of which quarter it is and the employee name.

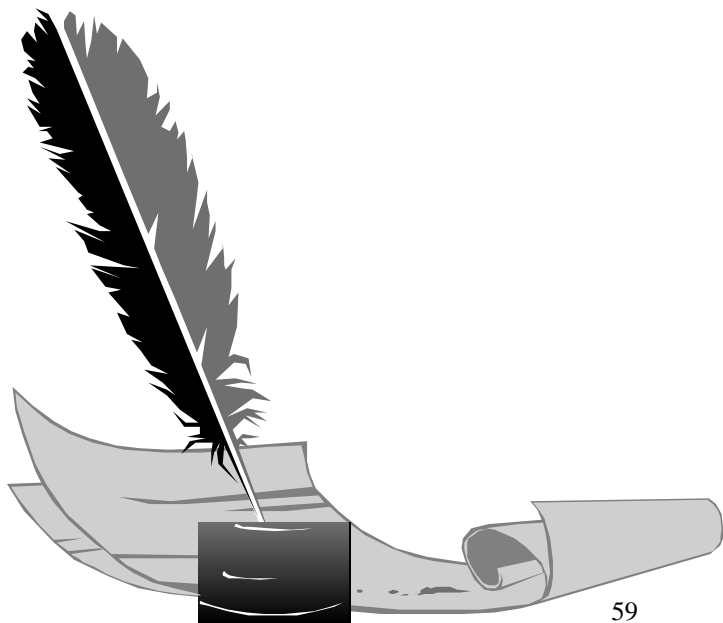
1. Return to Design view of the **Quarterly Sales** report.
2. RIGHT click the Group Footer #2 section name at the left of the screen, then choose Insert Section Below.
3. Add a text box to the Group Footer #2b section. Type **Congratulations**, then insert the {Employee.First Name} field. Then type **! You are one of the top sales producers for this quarter.**
4. Resize the text object so it looks good to you.
5. Now you are ready to conditionally suppress the Group Footer #2b section. RIGHT click the Group Footer #2b section name, then choose Format Section.
6. Click the  button after the *Suppress (No Drill Down)* check box.
7. Enter the following formula:
Sum ({Orders.Order Amount}, {Employee.Last Name}) < 120000
8. Accept the formula. Close the Section Expert. Save and preview the report. *Double click on the January 1997 sales to see if the formula worked.*
9. Close the report.

Lesson 3: Power Formatting with Multiple Sections

The drill-down pages of the report should look similar to the following illustration:



NOTES



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