Advanced Report Design for Residential Management

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Advanced Report Design - RM

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Advanced Report Design for Residential Management

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Introduction

Your MRI database is a relational database. A relational database consists of tables, which are the main structure of a database. A table is a defined structure containing values (data) in columns (fields), where each set of columns make up a row (record). There are elements of a table like primary and foreign keys, which make each record unique and maintain the integrity of your data, and indexes to help the system find and sort the information quickly. The data fields in tables are modified by SQL statements passed from the MRI programs to the database.

Views are the interface between the user and data that allow data to be presented in usable format for adding and updating. Reports present data stored in the tables. MRI provides a variety of ways to present the data.

Today's seminar will provide you with an introduction on how to present your data on a report using the MRI Report Design report writer.

Capabilities

Report Design is a comprehensive report writer that includes an extensive range of user interface customization tools to simplify report design, increase efficiency and ensure accuracy. Report Design was designed to meet the needs of those clients who want the flexibility and power to create their own custom financial statements, variance reports, rent rolls, sales reports, vendor listings, and many other operational reports needed. For added flexibility, reports created in MRI's ad hoc report writer, Plato, may be modified in Report Design.

Consider the following key points:

- Ability to use SQL (Standard Query Language) expressions
- Exporting to Excel
- Export to Word
- Email reports
- Send reports to PDF, XML, CSV, TXT or HTML files
- Drill-down capabilities
- Drag and drop capabilities
- Standard styling for object uniformity
- Quick formatting options for numbers and labels
- Enhanced, professional looking reports
- Easy graph capabilities
- Insert company logos and other bit maps
- Extensive consolidation capabilities
- Copy and paste features
- Use of account range groups
- Archive reports for easy reference
- Unlimited styles when printing reports
- Customized run time views
- Quick page setup capabilities

- Design reports that allow information from multiple modules on one report
- Secure reports
- MRI provides predefined functions – both general and specific to the property management industry
- Hide information from printing on the report but can be used in calculations
- Copy or Delete reports
- Create reports that can import or export data
- Create reports that can manipulate data and write to tables in the database using SQL language

Key benefits from these points include:

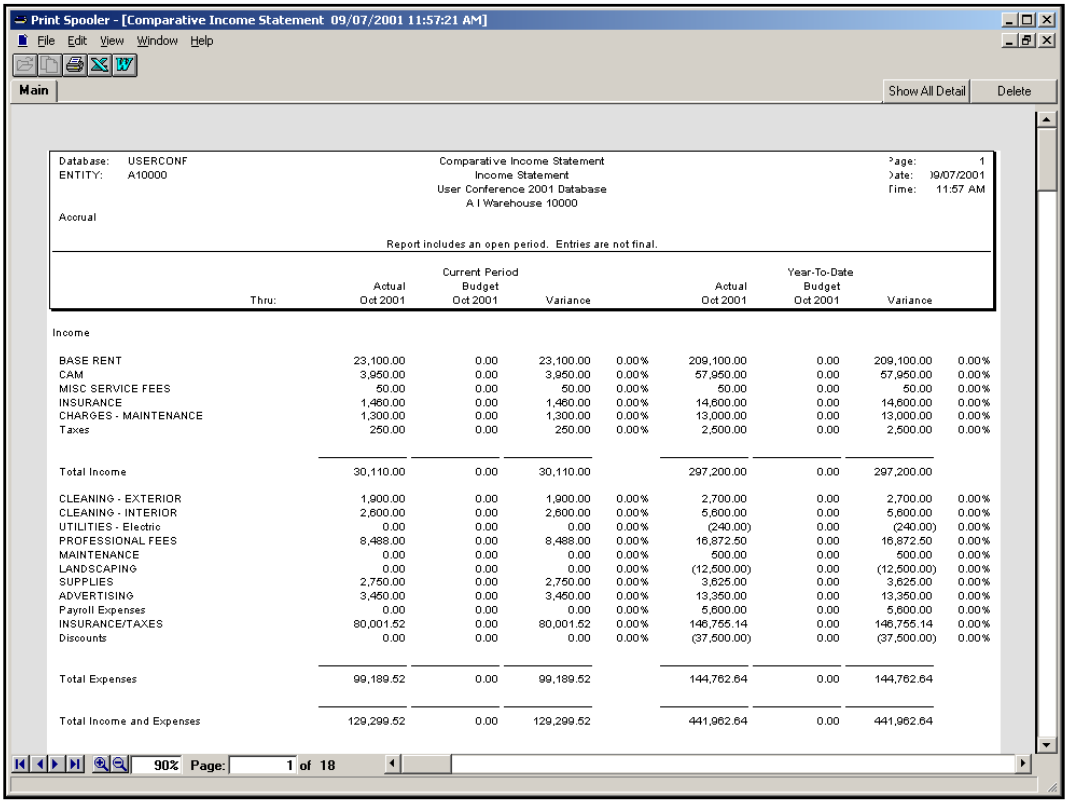
- All standard MRI reports can be **copied and tailored** to meet your needs, allowing you to leverage standard MRI functionality to meet company specific requirements.
- All reports can be **deployed simultaneously** to the MRI Windows ***and*** MRI Web environments, minimizing development efforts and providing the flexibility to deploy the reports to all MRI users.
- Reports can be used to perform **complex integrations** based on the ability to import / export data and write data to tables via SQL. Clients can build their own integrations! For example, MRI developed a FAS to MRI GL interface a few years ago that
  - Imports data into a temp table in MRI from FAS
  - Manipulates the data into the MRI required format for the journal entry table
  - Writes the data to the MRI JOURNAL table
- Reports can have **custom views** associated with them that allow clients to feed variables to the reports, to provide **run time alternatives** for sorting, filtering, etc.

Introduction to Report Design

Types of Reports

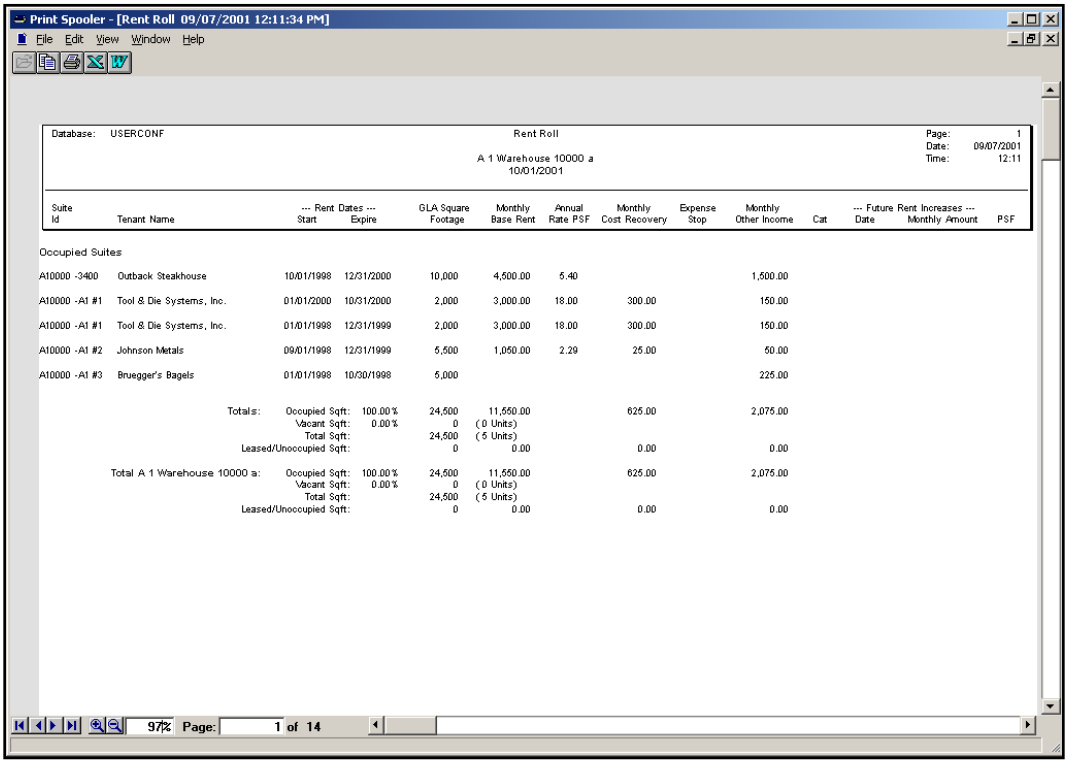
Financial

These are reports that are used in conjunction with the Financial Formats, such as Balance Sheets and Income Statements. Financial formats allow you to define the presentation of line item financial data.



Non-Financial

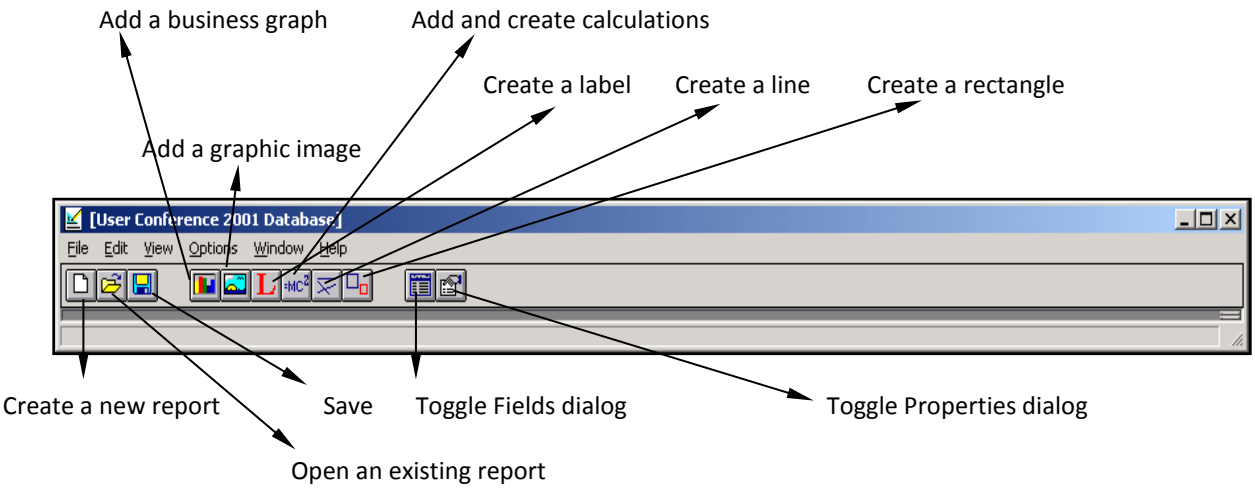
These are reports that do not contain any financial information, such as a Rent Roll or Check Register.



Understanding the Menu Bar

- **File Menu.** Select the File Menu to create a new report, open an existing report, save your report format or delete an obsolete report. Other options allow you to copy a report or a report heading. Also, you may use the File Menu to select one of the last four reports that you accessed.
- **Edit Menu.** Select the Edit Menu to access Report Options as well as copy and paste a field or group of fields.
- **View Menu.** Select the View Menu to access the Fields and Properties dialog boxes.
- **Options Menu.** Select the Options Menu to specify parameters that will assist you while you are designing the report.
- **Window Menu.** The Windows Menu is not used since you can only have one report open at a time.
- **Help Menu.** Select the Help Menu for the Online Help file, which is currently being updated.

Understanding the Tool Bar



A ***Report Definition*** controls the layout and content of a report. When used in conjunction with a report definition, financial formats and run-time parameters may also control aspects of the layout and content of a report. Report Design stores report definitions for every report in MRI. To create or copy a report definition for modifications purposes, you need to understand the following three design elements:

- **Segments**: Sections of a report on which you can place objects to display information.
- **Objects**: Items placed on segments to display descriptive text, data from table fields, data from calculation fields, or graphics.
- **Properties**: Settings for a segment or object based on your preferences or design needs.

To view the report based on a report definition, you need to run the report. When you run the report, the system uses the parameters set on the *Run Report* view and the report definition to display and format data from your database.

Segments

A *segment* represents a section of a report. To display report data on a segment, you must add objects to the segment. When you add a segment, the segment consists of one line. However, you can expand the height of any segment to create a multi-line segment.

Report Design provides different categories of segments so you can divide report data into logical groups that appear in a particular order when you run a report. To identify segments in a report definition, you can point to any segment to view its description in the lower-left corner of the *Report Design* view.

Note: The appearance and layout of segments in a report definition does not necessarily represent the appearance and layout of segments on a generated report.

Non-Financial and Non-Financial Financial reports will generally consist of one or more of these segments:

- **Report Header Segment.** The segment where the user defines the heading information of each page and the column headings for subsequent segments.

    - **Primary Segment.** The segment where the user defines the primary or base data to print on the report. Minimally, all non-financial reports must have a primary segment.

    - **Secondary Segment**(s). The segment where the user defines a related table to print additional data on the report. This segment is used in conjunction with the Primary or another Secondary segment based on related table (generally lower in the hierarchy) that can display multiple records for the key field of the primary or secondary segment.

    - **Total Segment.** The segment where the user defines calculated fields that are used to total data on the report.

    - **Grand Total Segment**. The segment where the user defines calculated fields that are used to determine the final or grand total of report data.

    Financial Segments allow you to present General Ledger financial data on a report. If you start a report as a financial report, the program automatically sets up three financial segments instead of one primary segment. Note that GL financial reports use the Entity as the base table. However, this type of report can consolidate financials for any reporting hierarchy above Entity including portfolio, owner, property type, region, etc.

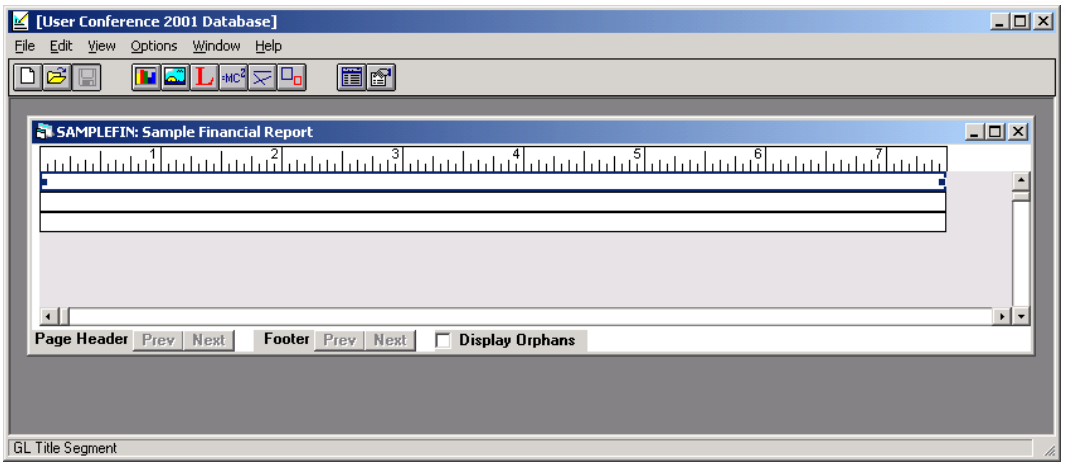
    Financial Reports will use the following segment types (the GL-type segments are used in conjunction with the Financial Format):

    - **Report Header Segment.** The segment where the user defines the heading information of each page and the column headings for subsequent segments.

    - **GL Title Segment.** The segment where the user specifies the objects that print the information from the Line Type of Title.

    - **GL Financial Format Segment.** The segment where the user specifies the objects that print the information from the Line Types of Range and Summarize.

    - **GL Total Segment.** The segment where the user specifies the objects that print the information from the Line Types of Subtotal and Total.



Objects

An ***object*** is an item you can add to a segment to display data or graphics on a generated report. To add one of the following objects, click on the appropriate icon, move your mouse to the area on the segment you wish to place the cell, hold down the left mouse button and "draw" the cell. Once you release your mouse button, the desired object will be in place.

Note: A report must have segments before it can have objects placed on it.

Objects that display data appear as cells in Report Design

- **Table field values**–Identified as table field objects in Report Design
- **Calculated values**–Identified as calculation field objects in Report Design
- **Descriptive text**–Identified as label objects in Report Design

Objects that display graphics appear on segments as one of the following types of graphical elements:

- Bar Graph

1. Image
2. Label
3. Calculation Field
4. Line
5. Rectangle

Symbols and Outlines

- **Arrow.** Standard cursor to give focus to a segment or object.
- **Hand.** Cursor that allows a segment or object to be moved.
- **Two-Way Directional Horizontal Arrow.** Cursor that allows a segment or object with handles to be resized.
- **Two-Way Directional Vertical Arrow.** Cursor that allows a segment to be resized vertically.

- **Four-Point Pointer.** Cursor that allows a line to be resized.
- **FLD with Swish Marks and Down Arrow.** Field dragged from Segment Fields dialog box is ready to be dropped.
- **FLD with Up Arrow.** Field dragged from Segment Fields dialog box is not ready to be dropped.
- **Object(s) Outlined with Heavy-Lined Border without Handles.** Objects that were lassoed and can be moved with the Hand cursor.
- **Segment or Object with Heavy-Lined Border with Handles.** Segments or objects with focus can be resized horizontally. Objects such as graphs and images have more handles and can be resized both vertically and horizontally.

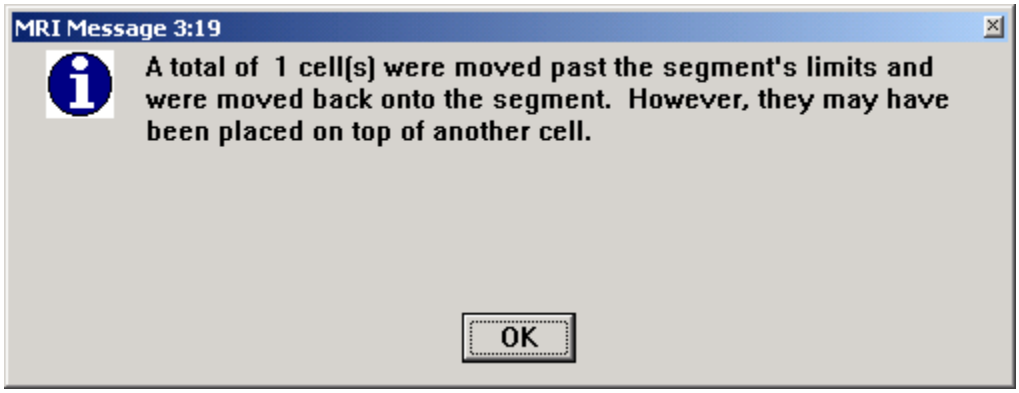
TIP: Chose a corner handle to resize an object proportionately.

Copy and Paste

There are several different ways to copy and paste an object in Report Design. The first way is using the shortcut keys (Copy is Ctrl+C and Paste is Ctrl+V). The second way is to select each function from the Edit Menu.

TIP: PASTE - Shortcut key vs. Edit Menu. When the Edit Menu PASTE function is used for either the shortcut key or Edit Menu COPY function, the Edit Menu PASTE function with paste the object(s) at the left-most corner of the segment. When the shortcut key for PASTE is used, the Ctrl+V copies the object(s) where the focus is placed.

If the shortcut keys are used and the paste of the object is placed outside the boundaries of the segment, the following message will appear. To correct, delete the cell(s) and try again.



Properties

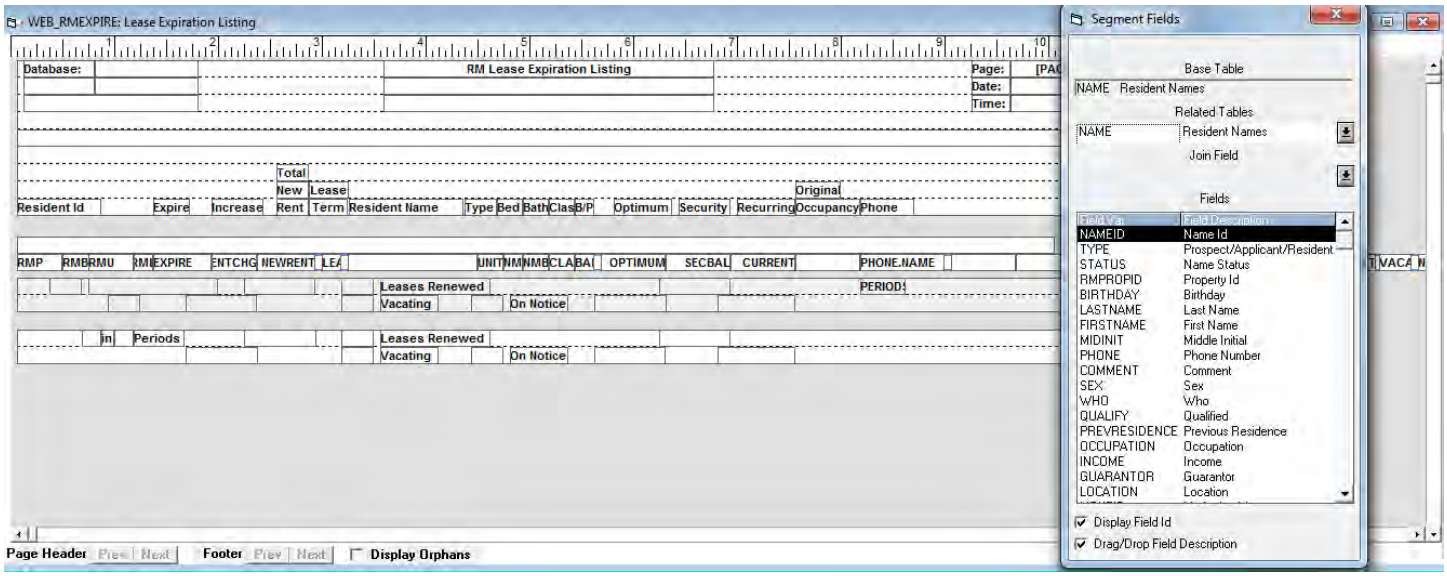
A *property* is a setting you can define for a segment or object based on your preferences or design needs. To define properties for a segment or object, you use the properties dialog box. The properties dialog box displays properties specific to the selected segment or object. To view a description of a property, you can click the property name on the properties dialog box.

Properties for most segments and objects are sorted under tabs on the properties dialog box based on their function. For example, properties related to the appearance of a segment or object appears on the *Format* tab. Some properties only appear on the properties dialog box when you select 'Display All Object Properties' on the Options menu.

Dialog Boxes

The View Menu contains the commands that enable you to view the Segment Fields dialog and properties dialog boxes. These boxes contain the specific properties and attributes of each cell and segment, allowing the user to specify the data cell and how it is to be displayed.

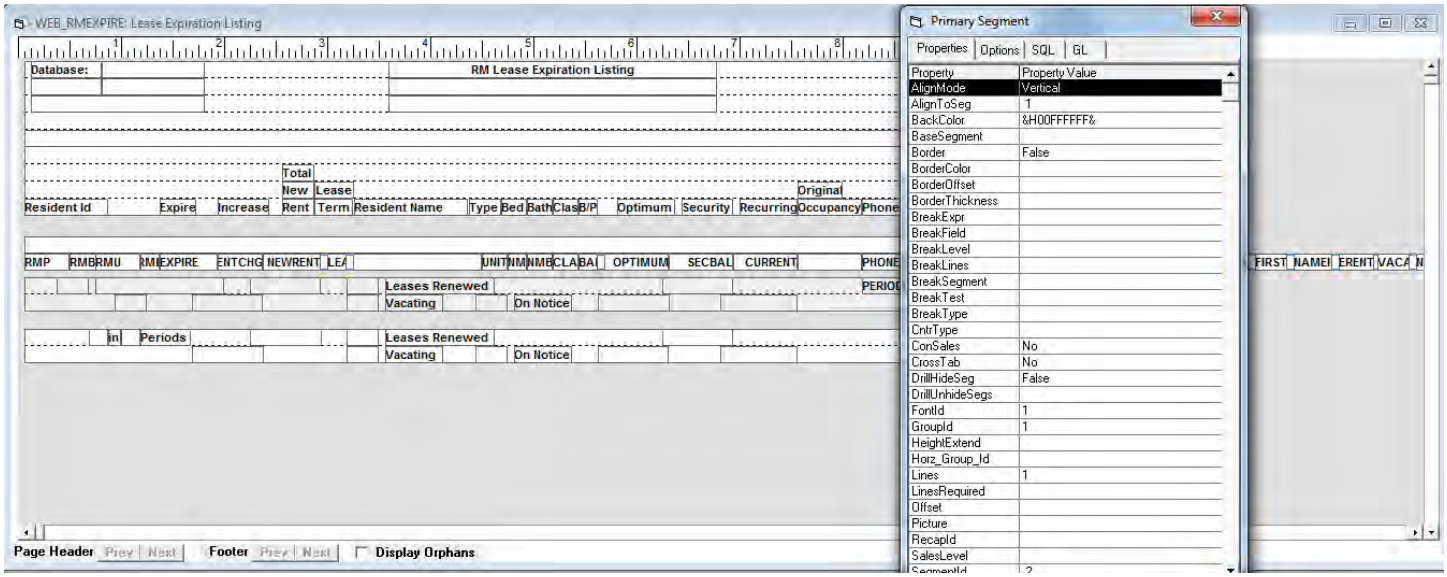
- **Fields dialog.** This option allows you to display the "Segment Fields" dialog box, which is a list of all the data fields available to be placed on that segment. These fields can then be "clicked and dragged" onto the segment. You can also display the "Segment Fields" dialog box by clicking the "Toggle Fields" dialog icon on the tool bar, right clicking inside the segment to which you want to add a field and selecting "View Fields" Dialog, or pressing the F5 key.



TIP: Make sure the proper segment has focus in order to "drag and drop" a field.

Properties Dialog

This option allows you to display the properties dialog box, which is a list of all the attributes of a specific cell. These attributes tell the system what data you would like to place on the report as well as any font or display characteristics. You can also display the properties dialog box by clicking the Toggle Properties Dialog icon on the tool bar, right clicking inside any segment, field, or object and clicking View Properties Dialog, or pressing the F4 key.



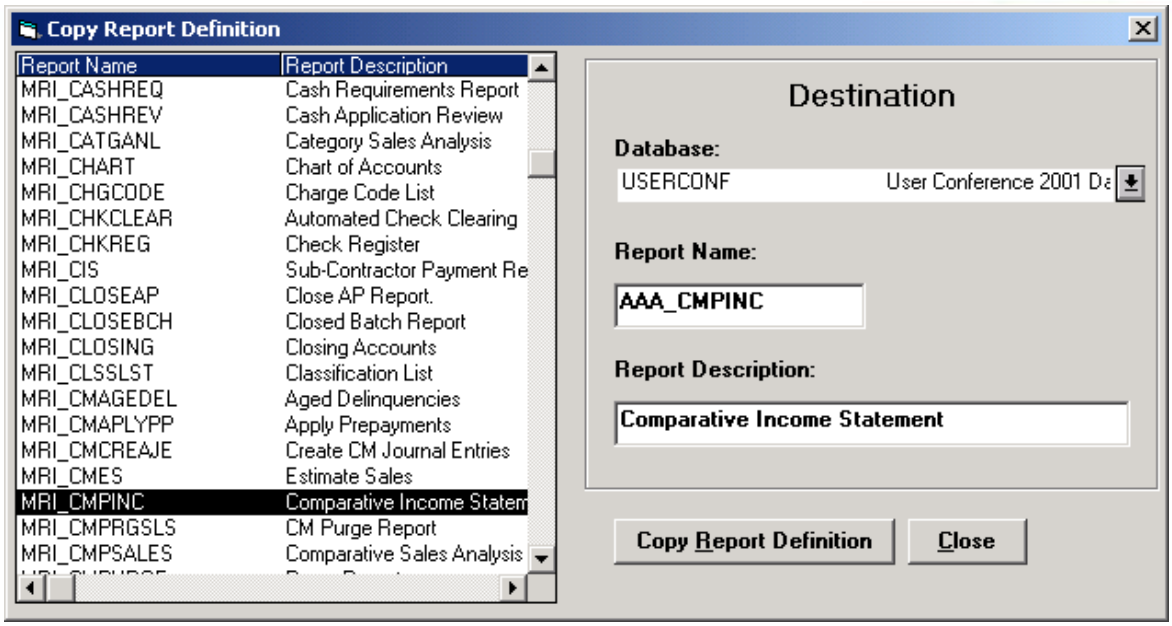
Creating Reports

You may create a report in one of three ways: create it from “scratch”, copy an existing report and change the applicable cells, or open a Plato report. MRI has approximately 300 reports from which to copy.

Copying a Report

The easiest way to create a new report is to copy a MRI report similar to yours. Follow these simple steps to accomplish this task:

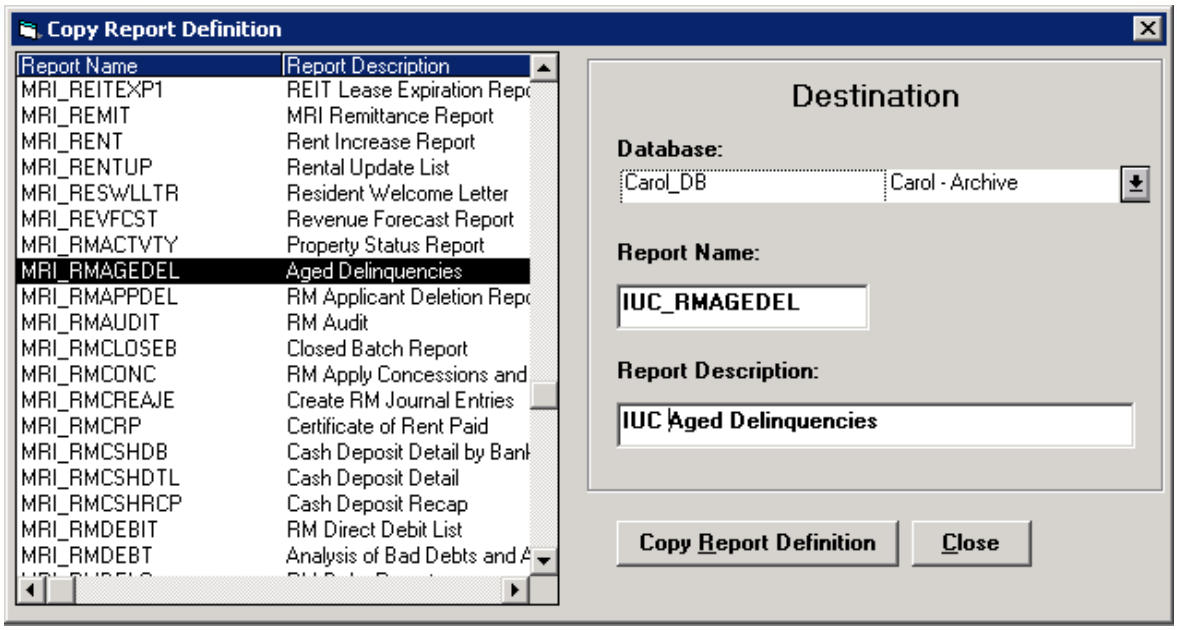
1. Click Copy Report Definition from the File Menu. Then select Report menu with all current reports displays.
2. Scroll through the list of reports and highlight the report you want to copy.
3. Select a destination database (if different from the one you are copying from).
4. Enter a new report name and report description.
5. Click the Copy Report Definition. The program will copy the selected report to the new report you defined.



Copying a Report Header

If you have a standard report header to use for all your reports or there is something similar in an MRI report, you may copy the header from another report.

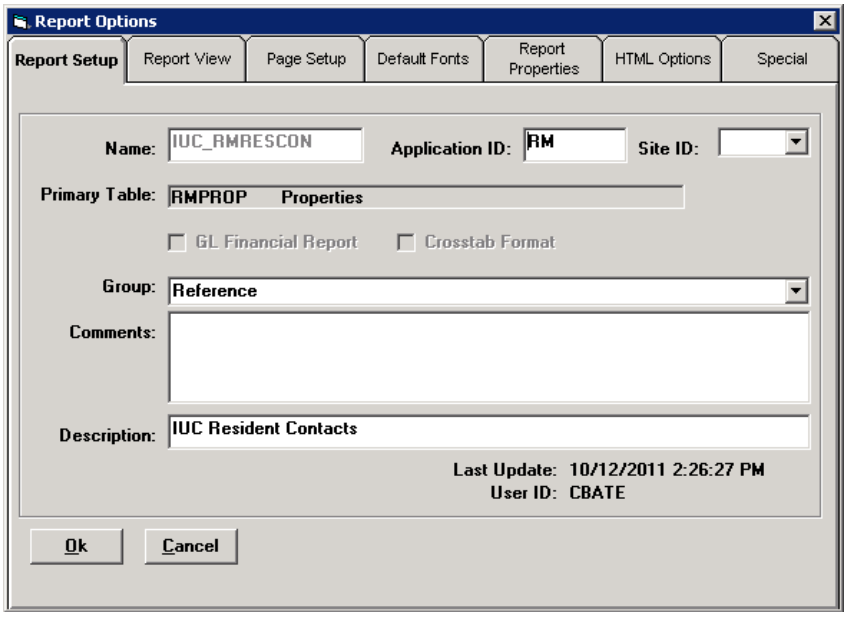
1. Click on Copy Report Header from the File Menu. The Copy Header box appears where you can select the database to copy from and the report name you wish to copy.
2. Scroll through the list of reports and select the report you wish to copy from.
3. Click on the Segment ID 2000.
4. Click Copy Header.



TIP: To delete the unwanted fields, simply highlight the cell and click the Delete button. In Report Design, you delete one field at a time.

Creating a New Report

To create a new report, click the "Create New Report" icon and the Report Options window will appear. In the Report Options view, the following parameters should be determined:

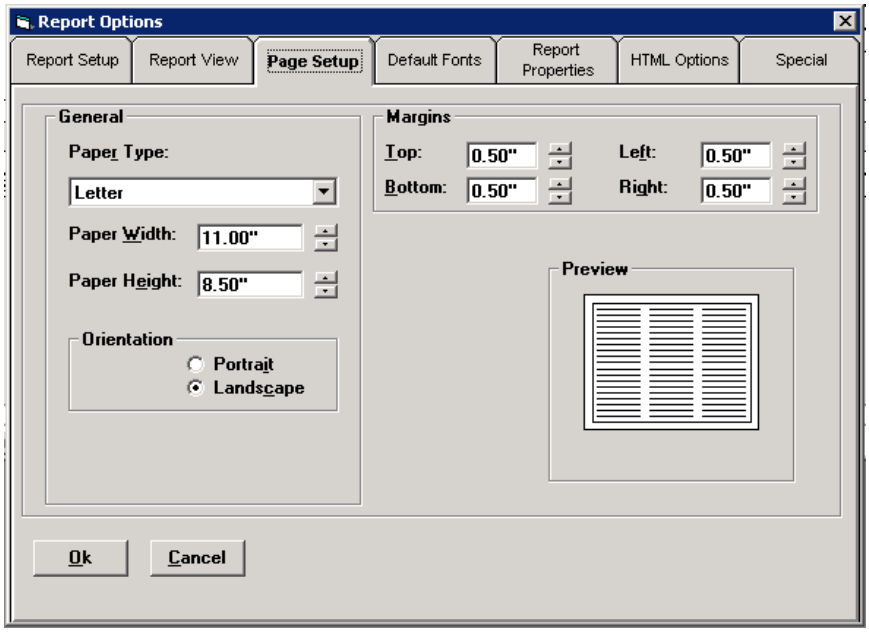


Report Setup tab

- Name and Description

- Application Id
- Primary Table
- Financial or Non Financial Report
- Group folder where this report can be located
- Report View tab
- Report's View for run time options

Page Setup tab



- Paper type and dimensions
- Paper Orientation
- Margins

Default Fonts tab

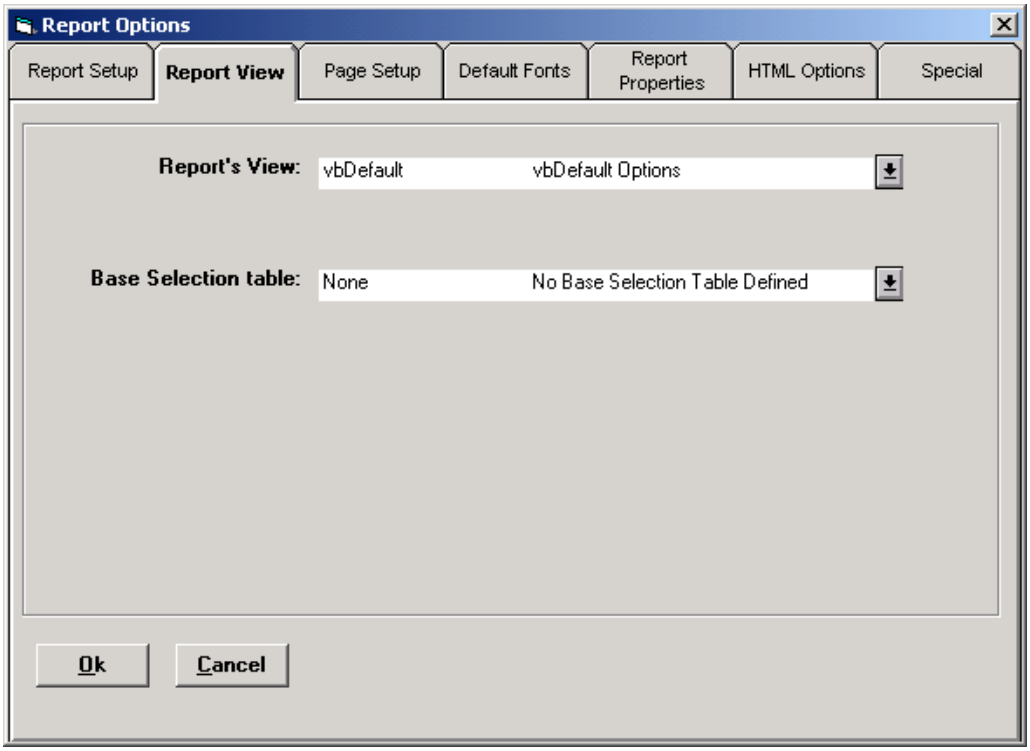
- Default fonts by report section

Associating a View with a Report

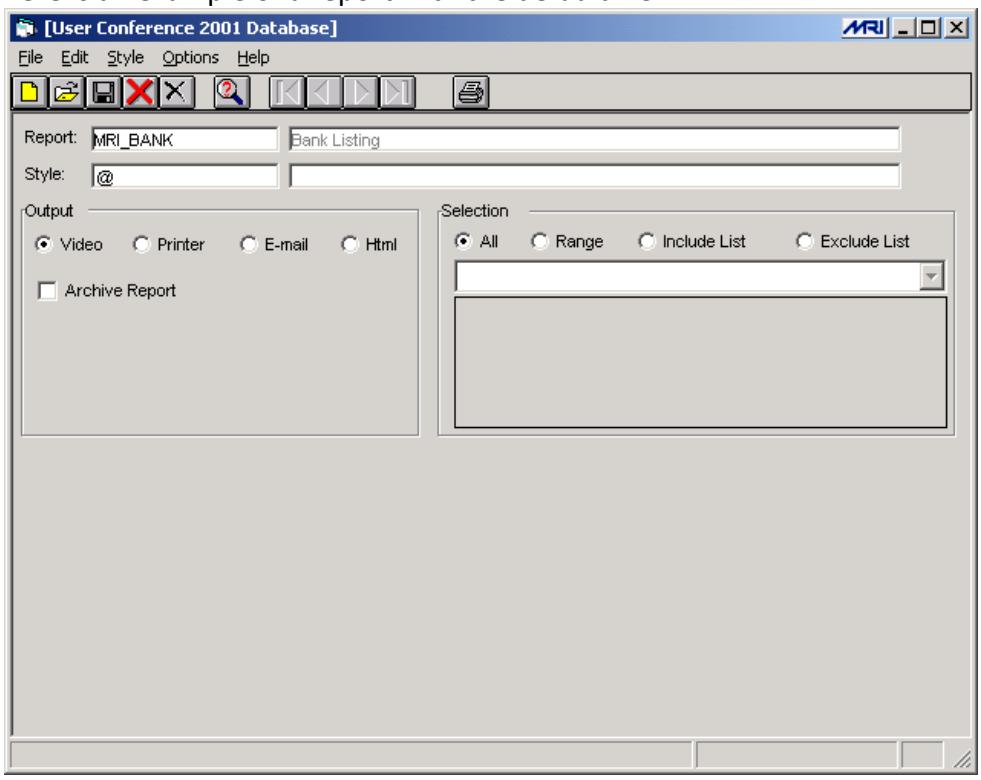
Each report contains standard options that determine the report output. Custom options may be added to the report. These custom options may include such items as the report period, basis type, report date, consolidated vs. non-consolidated, sort options or square foot type. Both custom and standard options are maintained in a view that appears when you run the report. These views are often referred to as "run-time options" and may be defined with the ViewDesign tool. This custom view is then attached to the report through the Report Options window.

Note: Associating a Report with a Web Activity Group/page is done through Web Design and is done **AFTER** the report has been created. It can be helpful to add it to View Design and associate it here during testing and then Web Enable the View later.

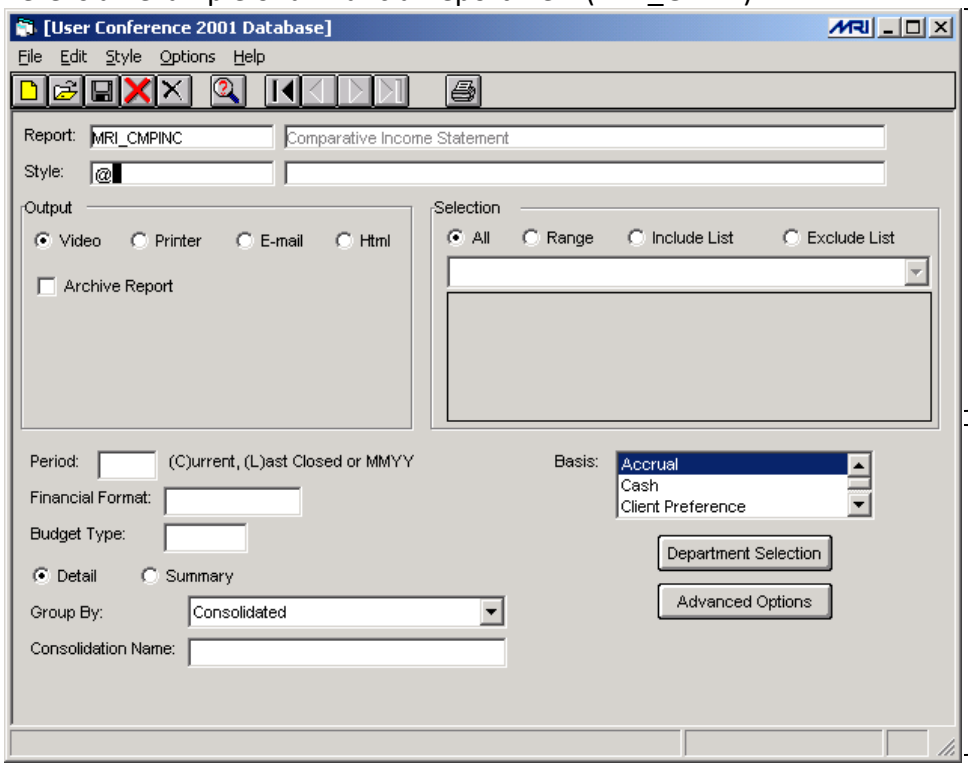
To select a view and attach it to a report, simply click on the Report Views tab.



Here is an example of a report with the default view:



Here is an example of a financial report view (MRI_GLRW):

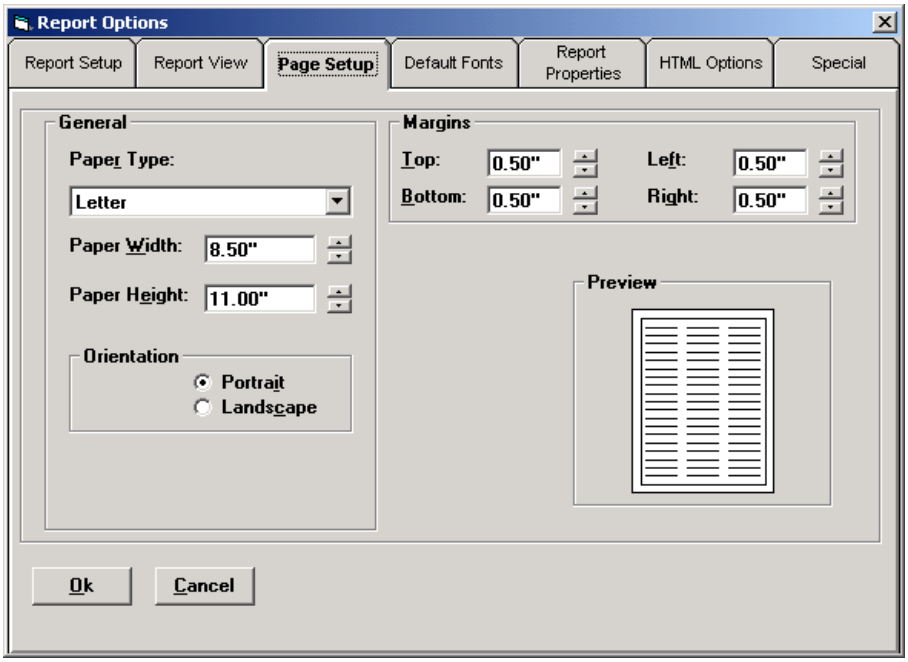


Top half of report view is standard.

Bottom half of report may be customized.

Report Layout

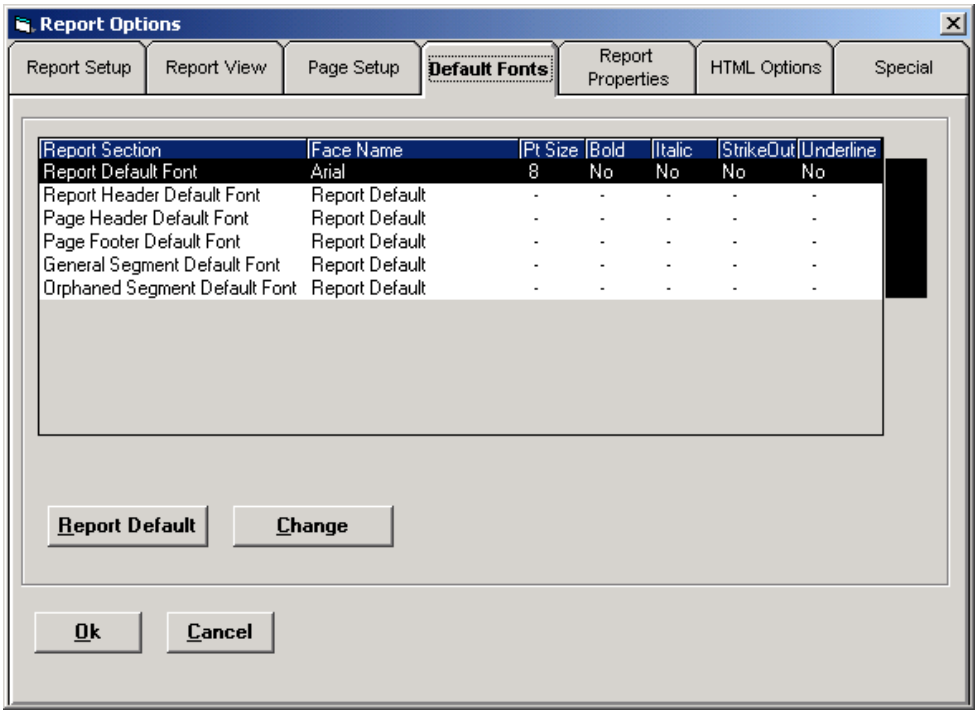
When designing a report, determine how the report would lay out on a piece of paper. The Page Setup tab allows for quick and easy setup by specifying the paper type, paper width and height, page orientation and margins for the report.



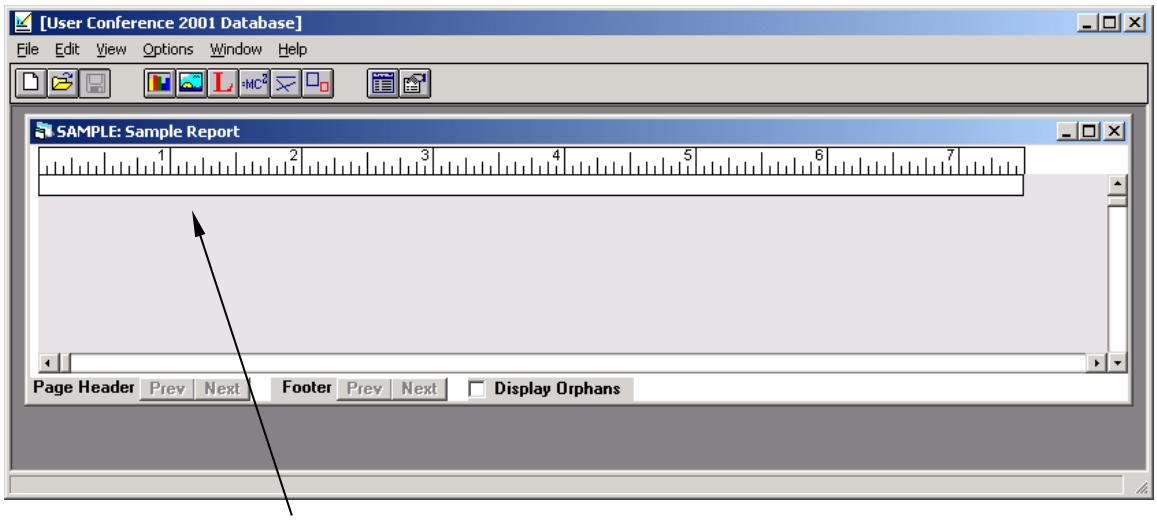
TIP: Paper Width determines the ruler or print area of the report. For those reports intended to be exported to Excel and not meant to be printed in MRI as an MRI report, you can expand the Paper Width to accommodate your needs.

Default Fonts

The Default Fonts tab contains options for each segment type placed on the report. The fonts identified are global changes for all the fields defined on that segment. However, the font defined for a field overrides the font specified for the segment.



After completing the Report Setup, Report View, Page Setup, and Default Fonts tabs, click OK. A blank report displays with a single-line indicating the report's Primary Segment.



New Report Primary Segment

Options Menu

The Options menu allows you to set certain parameters that will assist you while you are designing the report.

- **Display Caption Fields.** This option allows you to see the captions, titles, or cell IDs for fields you add to a report. When you add a label, the caption you type in the Properties dialog box displays. When you add a field to a report from the segment fields dialog box, the segment field title displays. Calculated fields display any text you type in the Cell ID property of the properties dialog box.

- **Display All Objects Attributes.** This option allows you to see all the object attributes of a field in the Properties dialog box, including programming attributes.

- **Align to Rule.** This option automatically aligns fields that are placed into a report. When you place the field or move it in the report, Align to Rule forces the field to a preset alignment unit along the ruler of the report.

TIP: Allow adequate space between cells on the segments, especially if the report is exported to Excel and Word.

- **Align Units.** When the Align to Rule option is on, Align Units sets the parameters for the alignment. The possible parameters are 1/16", 1/8", ¼" and ½".

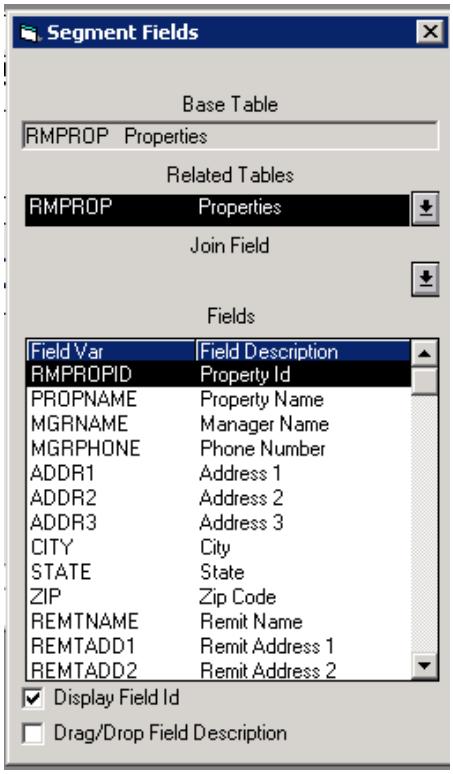
- **Save Settings on Exit.** Save the options you have set so the next time you use Report Design, the selected options are saved.

Adding Segment Fields

Segment Fields are fields you add to a report in order for it to return the data for that field at run time. These are a type of calculation field cell. The Segment Fields dialog box shows the base table being used and the related. The related tables are associated to the base table and are higher in hierarchy than the base table.

The primary table you select when beginning a new report should be on the lowest level needed for that report. This is necessary if you use related tables for adding fields to the report. When you add other table fields, the program can only access related tables that are higher in hierarchy than the primary table.

To add fields to a report, view the Segment Fields dialog box in one of the four following ways: click the Toggle Fields Dialog icon, right mouse click in the segment and select View Fields Dialog, press F5, or select Fields Dialog from the View Menu.

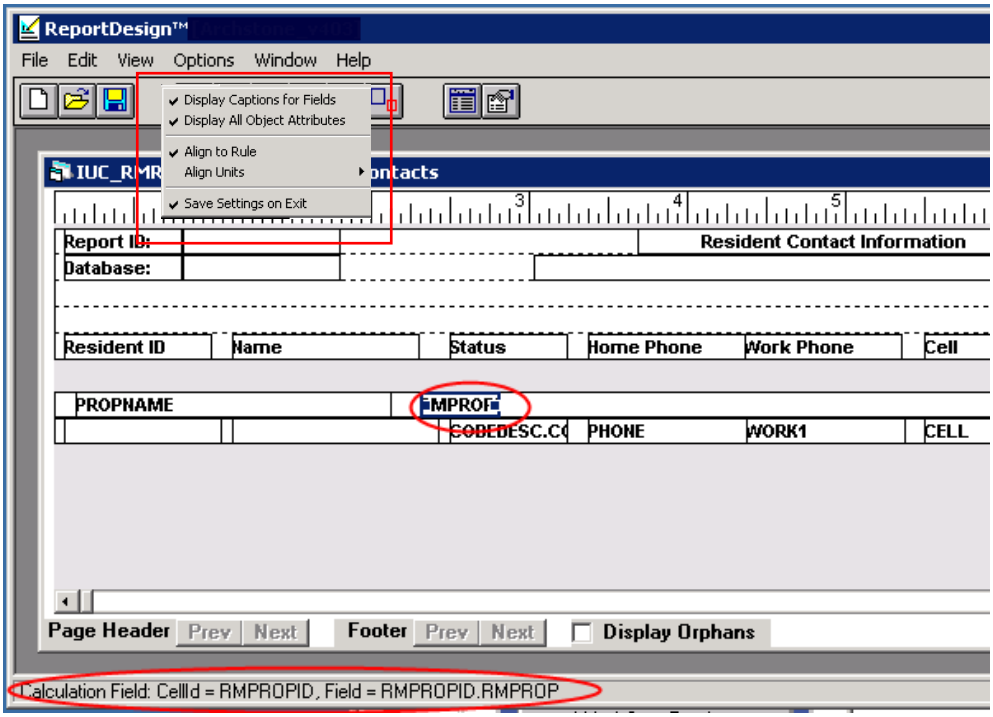


- Click the Display Field ID at the bottom of the dialog box if you want the actual Field Ids to display in the dialog box.
- Click the Drag/Drop Field Description at the bottom of the dialog box. This allows you to place the Field and Field Description, as a label cell, into the report.
- Click a field you want and drag it onto the report.

Properties of a Cell

Each segment and object has its own properties. The properties dialog box shows all attributes of that segment or object. The attributes for a segment or object may span over one or more tabs. The description of each tab denotes its basic purpose. For example, the Properties tab is used to define the type, look, and placement of the Primary Segment.

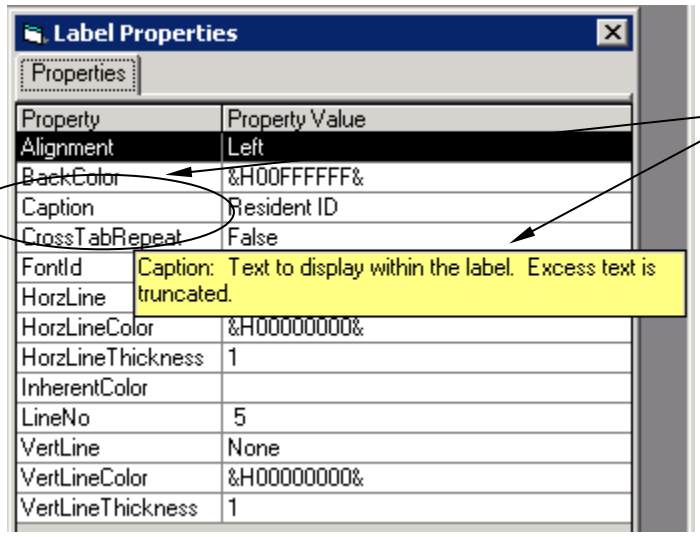
After dragging and dropping fields from the Segment Fields dialog box, you are now able to view or change the properties of a cell (form objects such as a label or calculation) by simply placing your mouse anywhere in the cell and view the Properties Dialog box in one of four following ways: click the Toggle Properties Dialog icon, right mouse click on the segment or object and select View Properties Dialog, press F4, or select Properties Dialog from the View Menu.



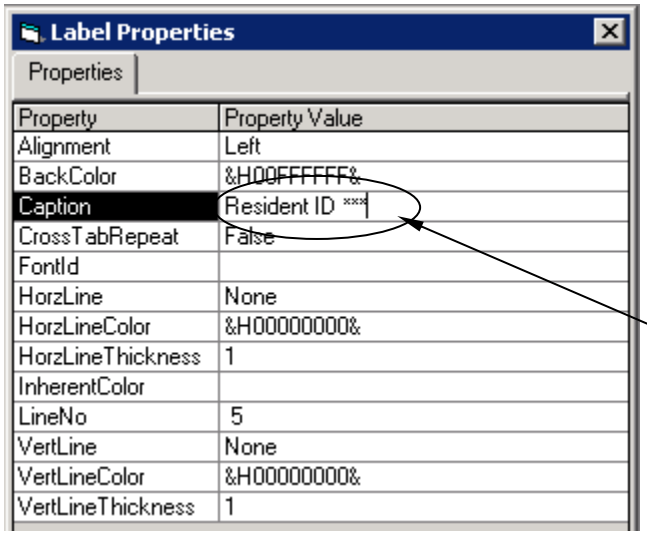
TIP: As the cursor moves over a segment or object, the status bar displays a description. This description is a portion of the property, which enables to see where you are in an instant without accessing the dialog box.

TIP: To display the definition or cell name of the object, verify that "Display Caption for Fields" is checked in the Options Menu. To display all attributes, verify that "Display All Object Attributes" is checked in the Option Menu.

Also, the Properties Dialog box is divided into two columns: Property and Property Value. By right mouse clicking in the Property column, a description of that property will appear. To add or change the value, you must click in the Property Value column.

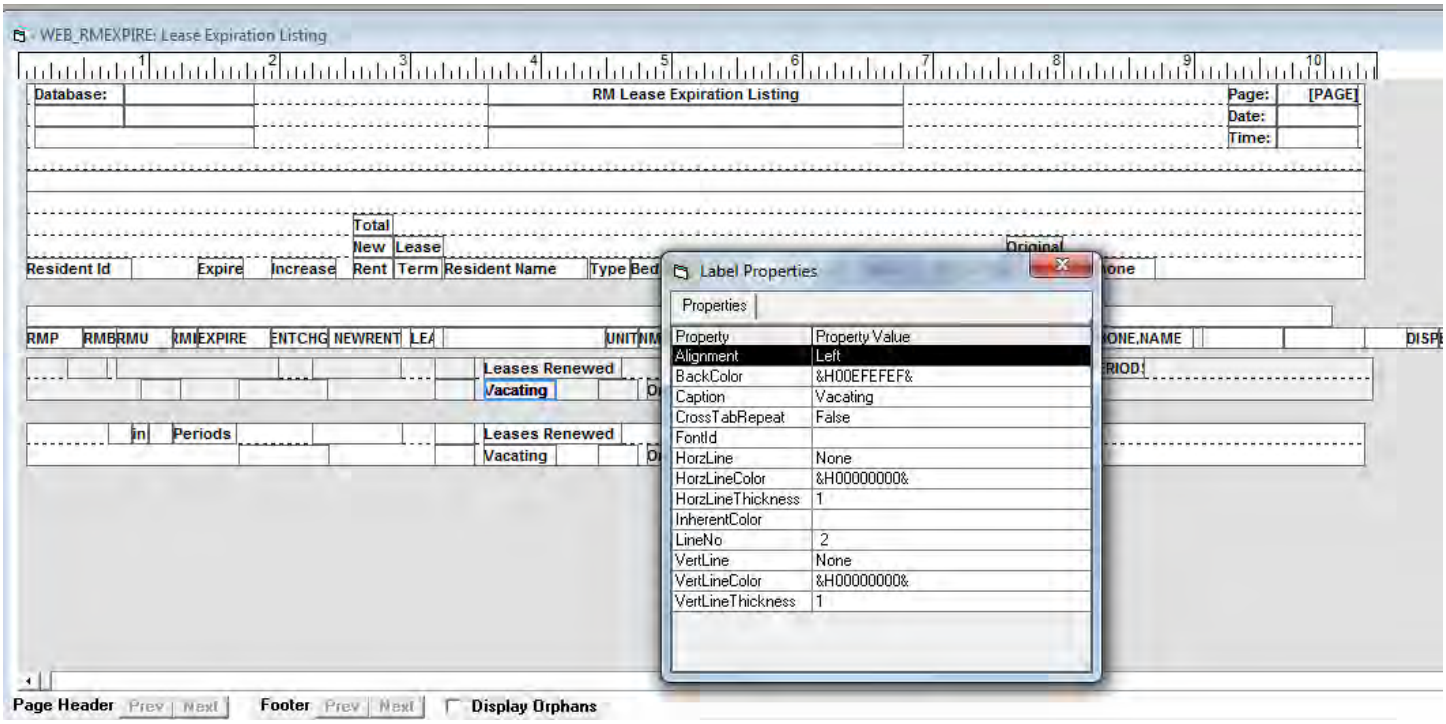


Right click on the word *Caption* to display the description of the property



Click in this area to change the value.

Label

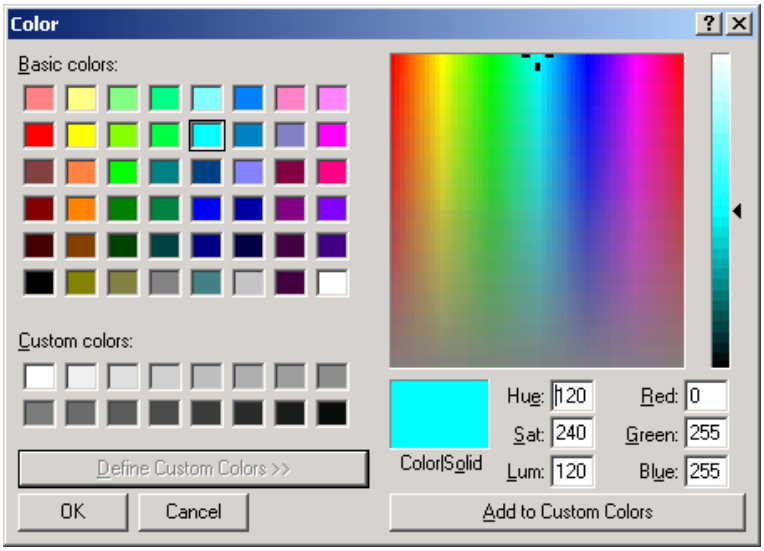


Basic Label Properties – Properties Tab

- **Alignment.** Identifies the placement of the data. Select left, right or center.

  TIP: Default alignment of an alpha field default is left. Default alignment of a numeric field is right.

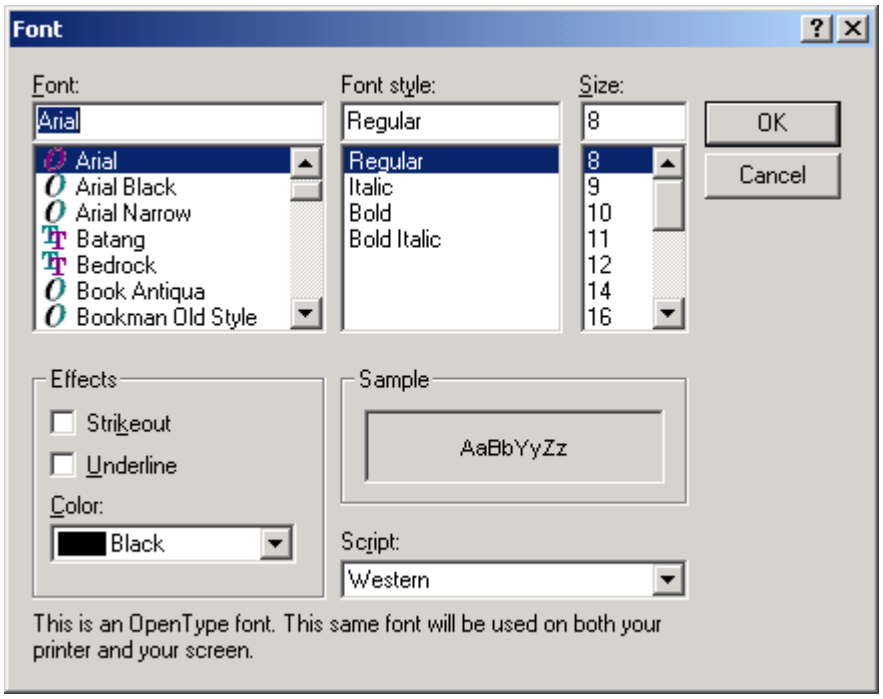
- **BackColor**. Displays the Color palette to modify the background color to the cell.



- **Caption.** Displays the description of the cell to appear on the report

TIP: When you see a description surrounded by !{}, such as !{Building} Id, this means that a "swapname" will be used. The "SWAPNAME" table is used to substitute, or swap, an alternate term for a standard MRI term. In this example, the word "Building" could be replaced by the word "Property".

FontId. Displays the Font dialog box to modify the default font attributes of the cell, such as font type, style, size, and color.

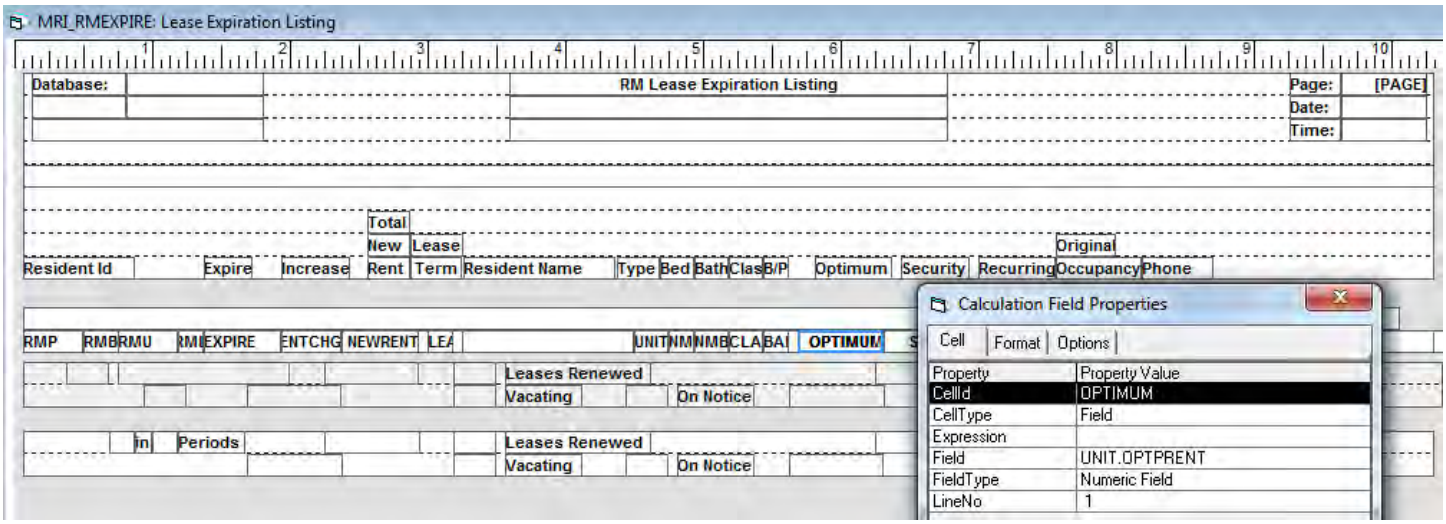


TIP: It appears that the smallest size font is 8; however, that number can be changed. To obtain a smaller font size, simply type the number in the size field. For example, type 6.

- **HorzLine** and **VertLine.** Allows you to put lines around a cell. Select top, bottom or both and left, right, or both.

- **HorzLineColor** and **VertLineColor.** Display the Color palette to modify the line color of the cell.

Calculation Field



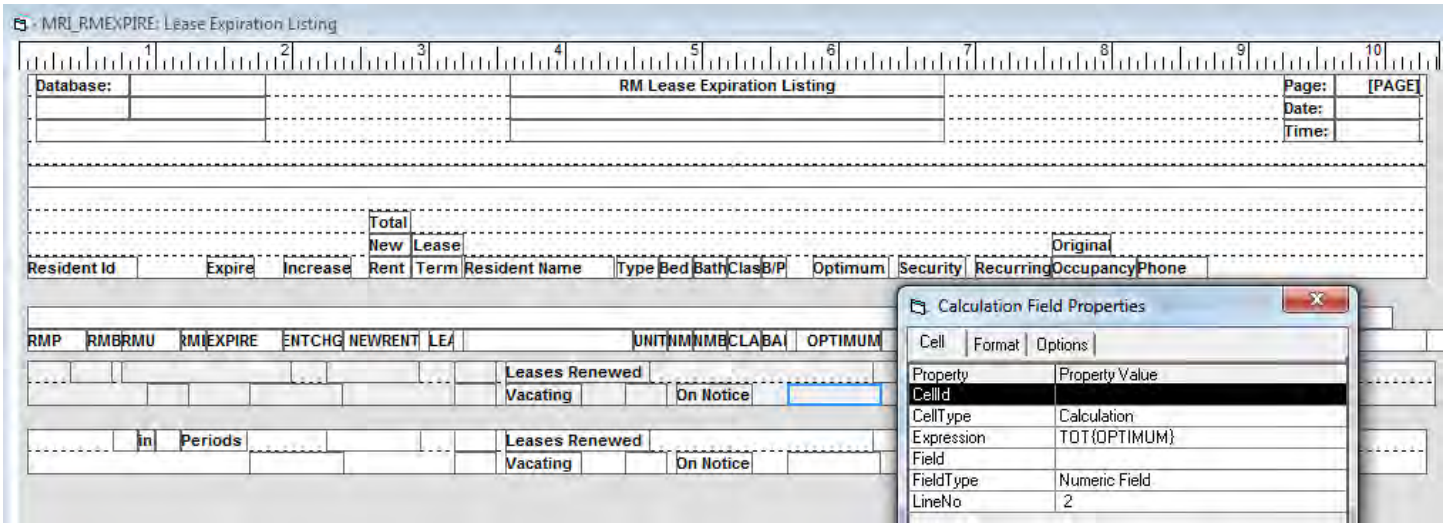
Basic Calculation Field Properties – Cell Tab

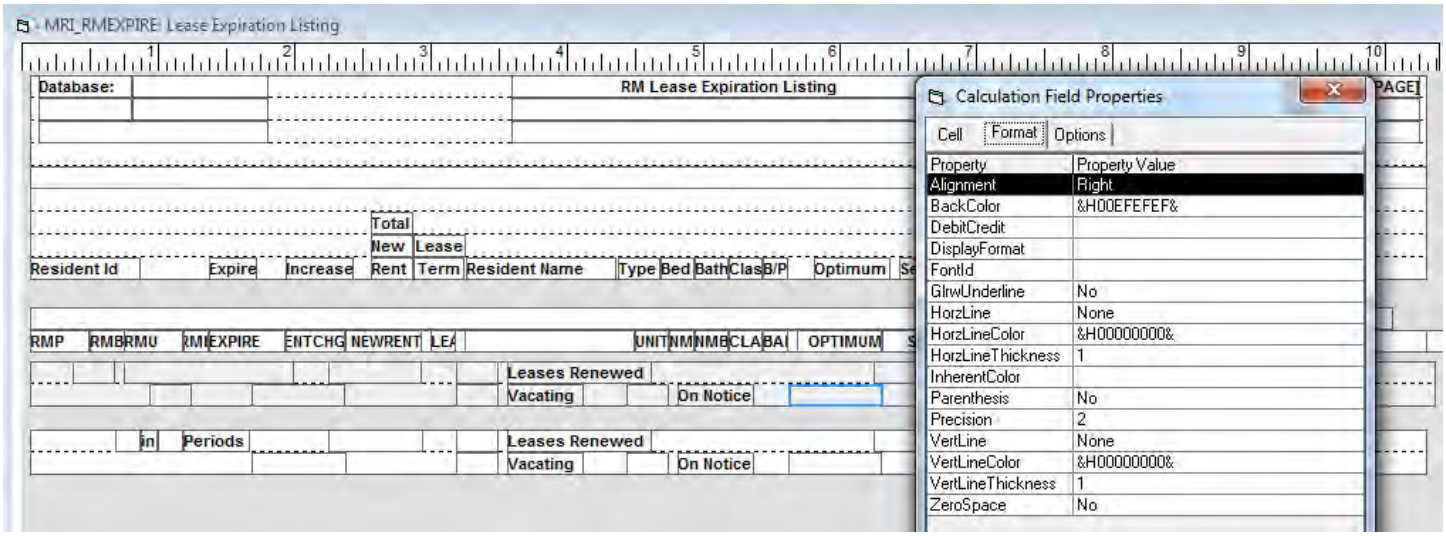
- **CellId.** Identifies the name of this cell so it can be referenced elsewhere.
- **CellType.** Allows you to tell the system the type of field added to the report. Available cell type options include Calculation Field, GL Actual Amount, GL Budget Amounts, and others.
- **Expression.** Allows you to add an expression or calculation to the field.
- **Field.** Displays the field name (TABLENAME.FIELDNAME) of the segment field.

TIP: When "Display Caption for Fields" is used, the field appears in the cell as FIELDNAME.TABLENAME.

- **FieldType.** Enables you to define the type of data in the current cell. Available options are Alpha, Date, Memo, Numeric, and Time.

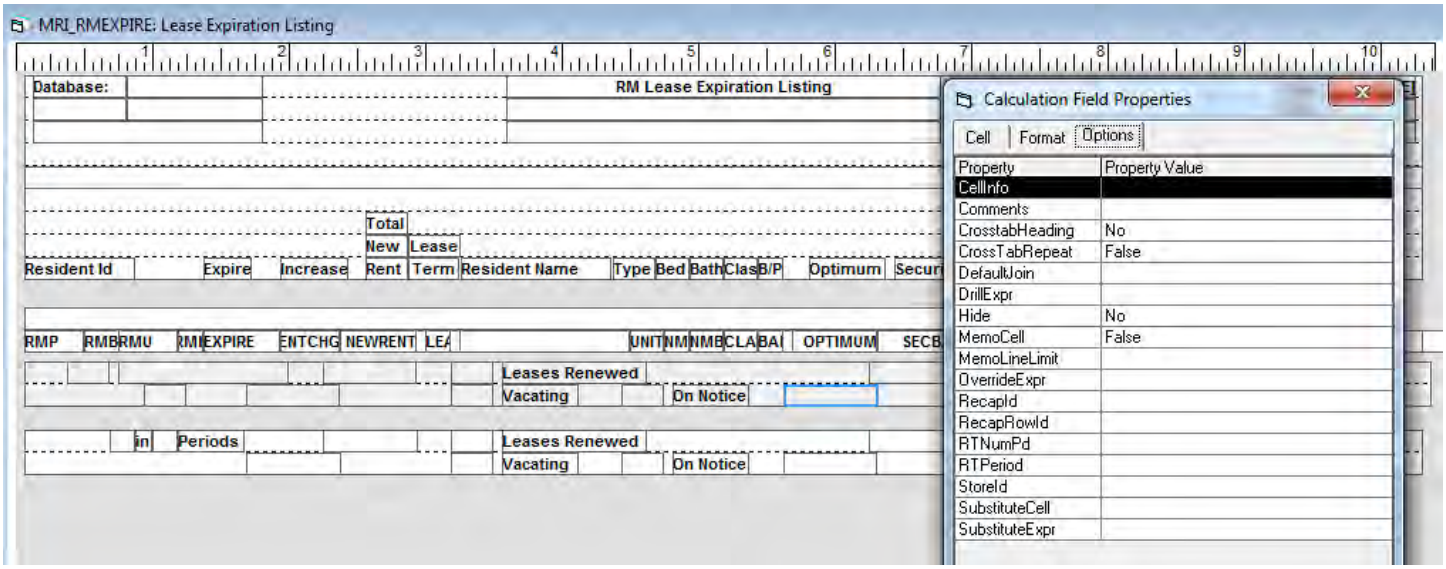
Basic Calculation Field Properties – Format Tab





- **Alignment.** Identifies the placement of the data. Select left, right or center.
- **BackColor.** Displays the Color palette to modify the background color to the cell.
- **DisplayFormat.** Identifies a predefined format of the data. Currently, there are several formats from which you can choose to customize your report, such as Account Number, Phone, and Zip Code.
- **FontId.** Displays the Font dialog box to modify the default font attributes of the cell, such as font type, style, size, and color.
- **HorzLine** and **VertLine.** Allows you to put lines around a cell. Select top, bottom or both and left, right, or both.
- **HorzLineColor** and **VertLineColor.** Display the Color palette to modify the line color of the cell.
- **Precision.** Allows you to change the number of decimals places in a numerical value.
- **ZeroSpace.** –If Yes, will leave the cell blank if the amount is zero. If Default, the segment ZeroSpace property will be used.

Basic Calculation Field Properties – Options Tab



- **Hide.** Allows you to not show a cell value on the printed report. For example, you may choose to hide a cell because the value is required for a calculation but it is not necessary to display on the report.

TIP: Another example of a hidden cell is a display message, used to denote the printing progress of report. When a cell is identified with a CellId of DISPLAYMSG, the field or expression for which it is identified will display while the report is processing.

- **MemoCell.-**When True, the cell allows multiline text capability. To place maximum lines, refer to the property MemoLineLimit.

- **MemoLineLimit.**- For one-line segments, a non-zero values specifies the maximum lines that will print. A 0 indicates no limit. For multi-line segments, the number of lines printed is determined by the height of the memo cell.

- **SubstituteCell.** – Id of the cell to print if the SubstituteExp evaluates to true. This enables the use of different field types, fonts, display formats based on some condition at runtime.

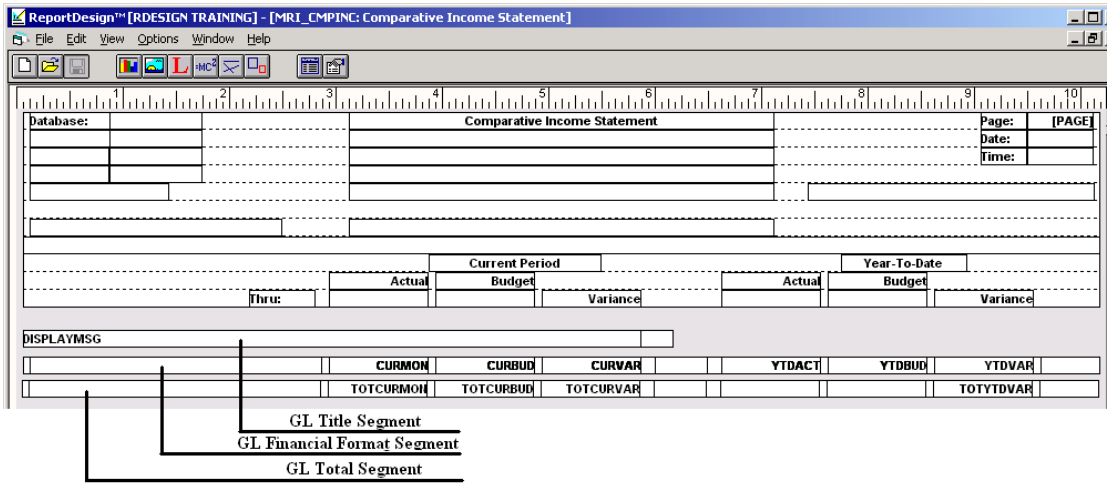
- **SubstituteExp.**-If the expression evaluates to true, the contents of cell identified in by SubstituteCell is printed. This enables the use of the different field types, fonts, display formats based on some condition at runtime.

- **RecapId/RecapRowId.** Allows you to Recap totals to a Recap Segment.

Creating Financial Reports

Opening a Financial Report

Now let's open up a Financial Report definition. From the File Menu, select Open Report Definition. Choose MRI_CMPINC and click Select.



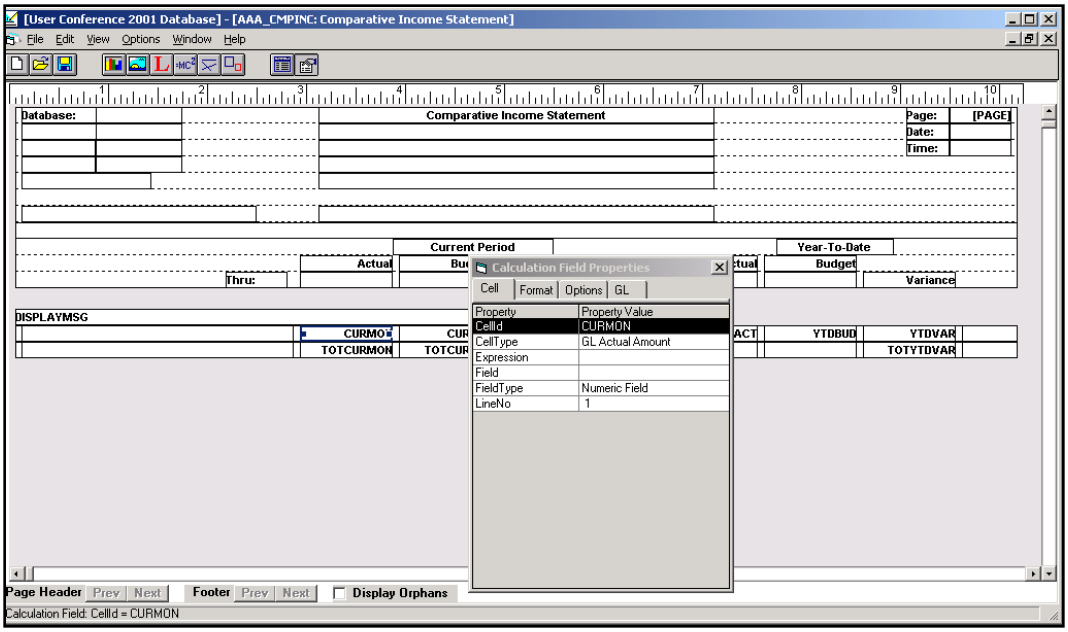
In a Non-Financial report, the Primary Segment runs a query on your MRI Database and pulls corresponding data until it has gone through all the records of the corresponding table.

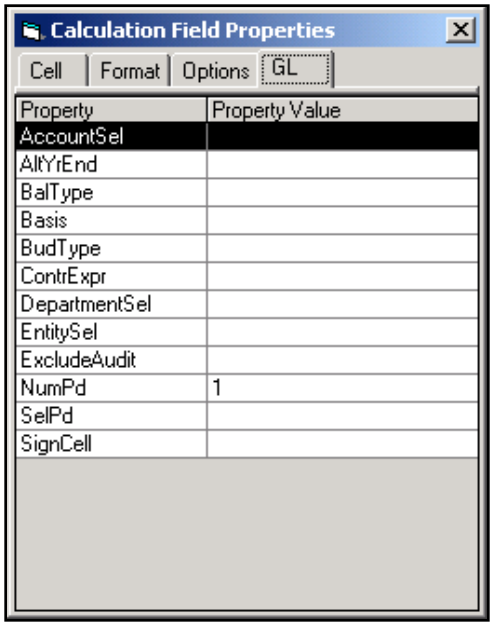
In a Financial Report, Report Design does not operate in quite the same way. Instead, the GL Financial Format segment runs down each row on a financial format pulling data from every line that returns non-zero amounts.

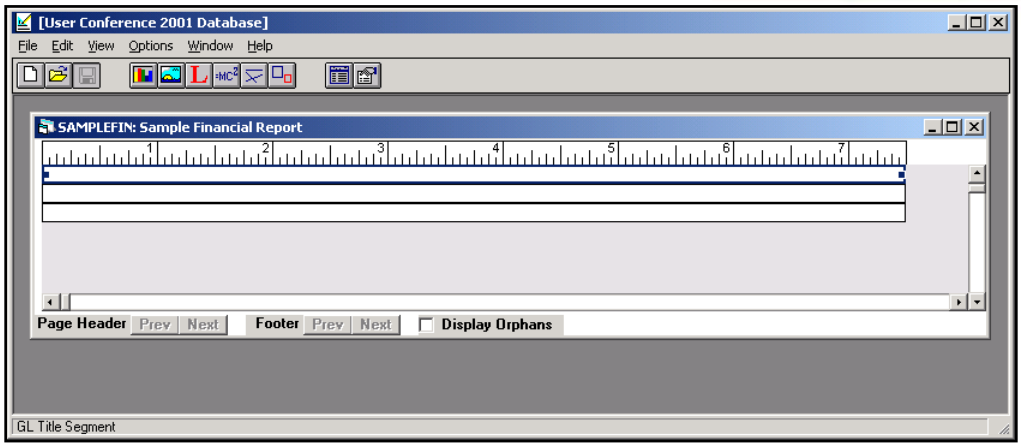
Creating New Financial Reports

There are three detail segments that comprise a financial report – GL Title segment, GL Financial segment and GL Total segment.

When the GL Financial segment uses such CellTypes as GL Actual Amount and GL Budget Amount, a new tab appears.







Financial Reports will use the following segment types (the GL-type segments are used in conjunction with the Financial Format):

- **Report Header Segment.** The segment where the user defines the heading information of each page and the column headings for subsequent segments.
- **GL Title Segment.** The segment where the user specifies the objects that print the information from the Line Type of Title and Blank.
- **GL Financial Format Segment.** The segment where the user specifies the objects that print the information from the Line Types of Range and Summarize.
    - Appear in reports based on financial formats
    - Appear in the body of a generated report after the page header
    - Display information based on a financial format you select at run time
- **GL Total Segment.** The segment where the user specifies the objects that print the information from the Line Types of Subtotal and Total.

Basic Calculation Field Properties – GL Tab

- **NumPd.** Determines how many periods of data to retrieve for the type of cell identified (Actual, Budget, or either). Values for NumPd are 1-12, 24, YTD. If NumPd is left blank, the system assumes 1.

- **SelPd.** Specifies what period to use to retrieve data for the type of cell identified (Actual, Budget, or either). Values for SelPd:

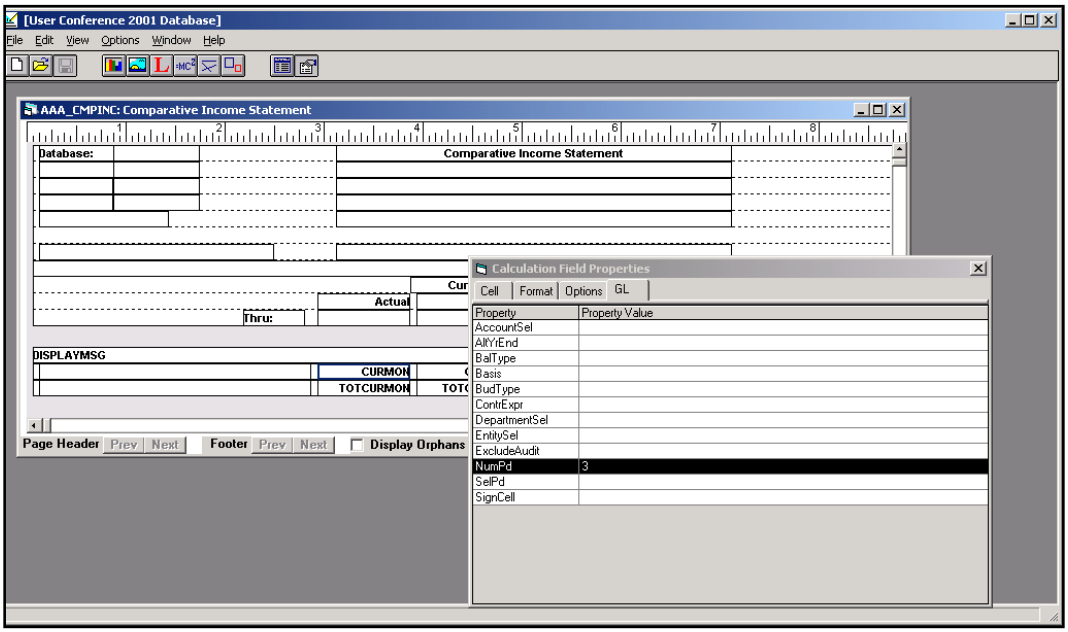
    - **F#.** Fixed Period, where # is 1-12.

    - **O#.** Offset Period, where # is the period number to be subtracted from the selected period. If the report period were 06/14, O2 would specify 04/14. You can also specify a negative number to go forward a number of periods. If the report period were 06/14, O-3 would gather data for 09/14.

    - **PY#.** Previous Year, where # is the number of previous years. If the report period were 06/14, PY1 would gather data for 12/13. PY-1 will return 12/15.

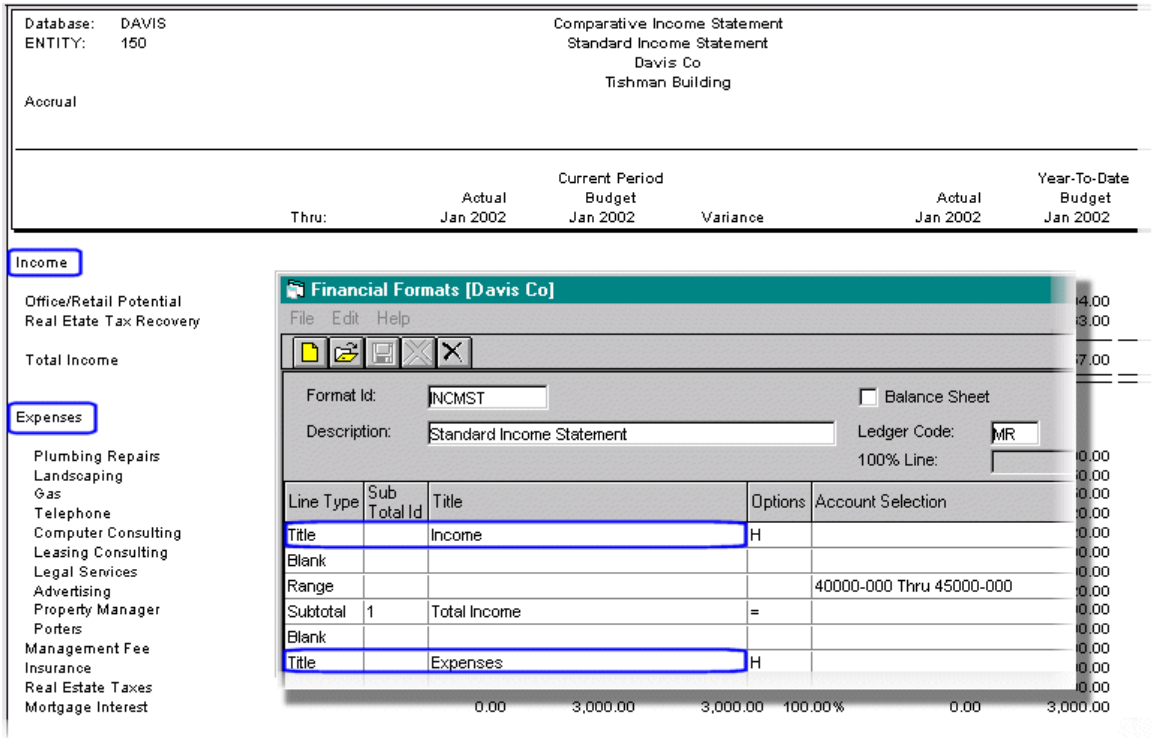
TIP: All values must be typed in upper case. If YTD is specified as "ytd", an incorrect value may be returned. SelPd is the ending period. For example, if your report period is December and you specify NumPd=3 and SelPd=O3, the system will gather data for July – September. You can also combine the SelPd values. For example, you can enter a SelPd of PY1F3.

To change a monthly report into a quarterly report, make the following change:



Example of GL Title Segment

The GL Title segment displays financial format line items with a line type of 'Title' and 'Blank'.



Displaying Titles Based on Financial Formats

If you are designing a report to be used in conjunction with a financial format, you can display report section titles using the following design elements:

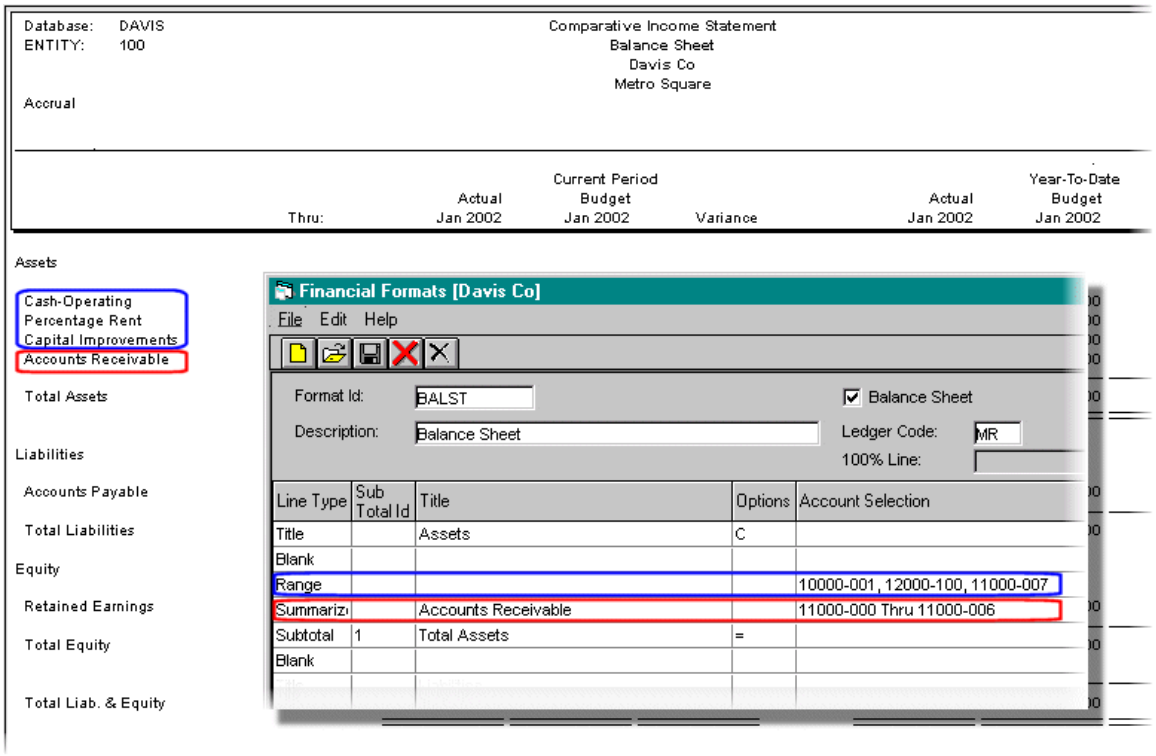
- **GL Title segment**—Displays financial format line items with a line type of 'Title.'
- **GLRWTITLE{} function**—Displays each section title specified in a financial format.

To display titles based on a financial format:

- Add a calculation field to the GL Title segment by clicking the **Calculation** button, and then dragging across the area of the segment where you want the title to appear.
- Click the calculation field, and then on the **View** menu, click **Properties Dialog** to display the *Calculation Field Properties* dialog box.
- In the field for the *Expression* property on the *Cell* tab, create an expression using the **GLRWTITLE{}** function in the **GL Financial Report Functions** folder.
- Format, size, or move the calculation field as needed.
- On the **File** menu, click **Save Report Definition**.
- Run the report to view the titles.

Example of GL Financial Format Segment

The GL Financial Format segment displays financial format line items with a line type of 'Range' or 'Summarize.'



Displaying GL Account Information Based on Financial Formats

If you are designing a report to be used in conjunction with a financial format, you can display certain account information using the following design elements:

- **GL Financial Format segment**—Displays financial format line items with a line type of 'Range' or 'Summarize.'
- **Calculation fields with GL cell types**—Display actual or budgeted account information from the account range defined in the financial format. The system selects account information from the GL Summary (GLSUM) table or the Budget (BUDGETS) table depending on the cell type you select.
- **Calculation fields with GL functions—**Display additional account information, such as account name or number, using GL Financial Report functions.

1. Add a calculation field to the GL Financial Format segment by clicking the **Calculation** button, and then dragging across the area of the segment where you want the account information to appear.
2. Click the calculation field, and then on the **View** menu, click **Properties Dialog** to display the *Calculation Field Properties* dialog box.

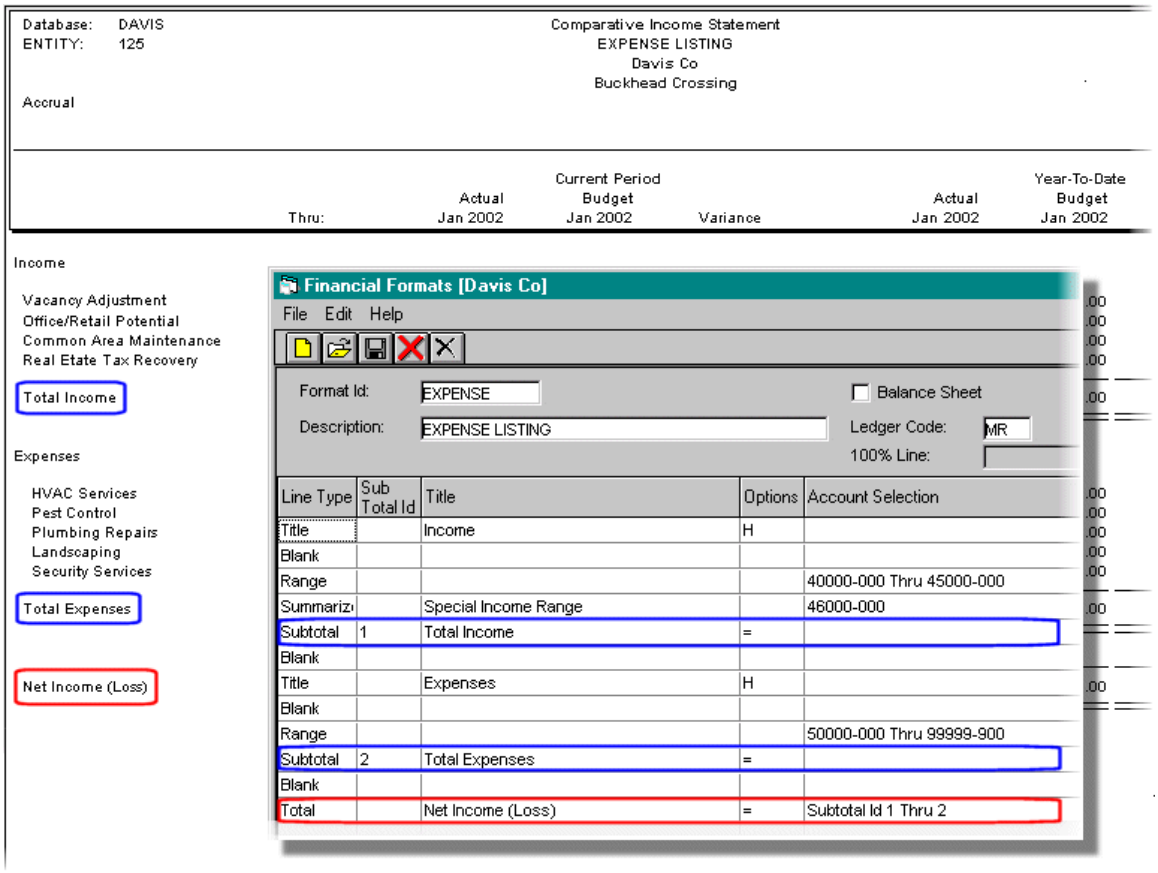
3. Click the ***Cell*** tab.
4. In the field for the CellId property, type a unique name to identify the calculation field.
5. To display—
   - Actual amounts
     1. In the field for the CellType property, select **GL Actual Amount**.
     2. In the field for the FieldType property, select **Numeric**.
   - Budget amounts
     1. In the field for the CellType property, select **GL Budget Amount**.
     2. In the field for the FieldType property, select **Numeric**.
   - Actual amounts or budget amounts if no actual amounts exist
     1. In the field for the CellType property, select **GL Actual or Budget**.
     2. In the field for the FieldType property, select **Numeric**.
   - Variances between actual and budget amounts
     1. In the field for the CellType property, select **GL Variance Calculation**.
     2. In the field for the *Expression* property, create an expression, such as CELL{cellid}-CELL{cellid} to display the difference between two balances.
     3. In the field for the FieldType property, select **Numeric**.
   - Budget notes
     1. In the field for the CellType property, select **Budget Note**.
     2. In the field for the FieldType property, select **Numeric**.
   - Other account information, such as the account name or number
     1. In the field for the *CellType* property, select **Calculation**.
     2. In the field for the *Expression* property, create an expression using a function in the GL Financial Report folder, such as ACCTNAME{} to display the account name or ACCTNUM{} to display the account number.
6. To limit report results based on any other criteria, such as a period, define a filter for the calculation field using properties on the *GL* tab.

Note: To apply the same criteria to all fields on the GL Financial Format segment, you can define a filter for the segment.

7. Format, size, or move the calculation field as needed.
8. On the **File** menu, click **Save Report Definition**.
9. Run the report to view the account information

Example of GL Total Segment

The GL Total segment displays financial format line items with a line type of 'Subtotal' or 'Total.'



Displaying Totals Based on Financial Formats

If you are designing a report to be used in conjunction with a financial format, you can display totals for a column using the following design elements:

- **GL Total segment**—Displays financial format line items with a line type of 'Subtotal' or 'Total.'
- **GLTOT{cellid} function**—Enables you to specify the field on the report for which you want to display a total.

To display totals based on a financial format:

1. Add a calculation field to the GL Total segment by clicking the **Calculation** button, and then dragging across the area of the segment where you want the total to appear.
2. Click the calculation field, and then on the **View** menu, click **Properties Dialog** to display the *Calculation Field Properties* dialog box.

3. In the field for the Expression property on the *Cell* tab, create an expression using the **GLTOT{}** function in the **GL Financial Report Functions** folder.

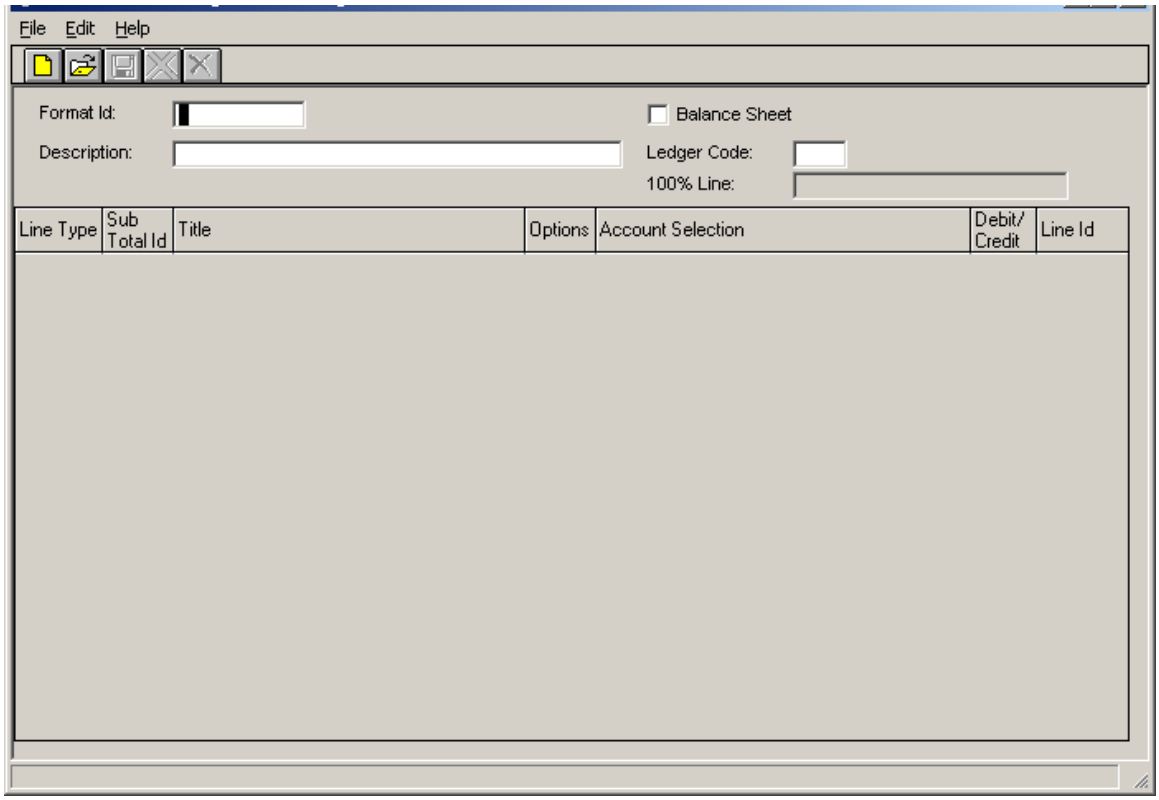
Example
To display totals for data that displays in a field with a cell ID of 'CURMON,' use the following expression:
GLTOT{CURMON}

4. In the field for the FieldType property, select **Numeric**.
5. Format, size, or move the calculation field as needed.
6. On the File menu, click Save Report Definition.

Creating a New Financial Format

When creating a financial report it is important to remember that the financial format defines the rows in a report while the Report Design defines the columns. Only financial reports use financial formats.

The financial format screen:



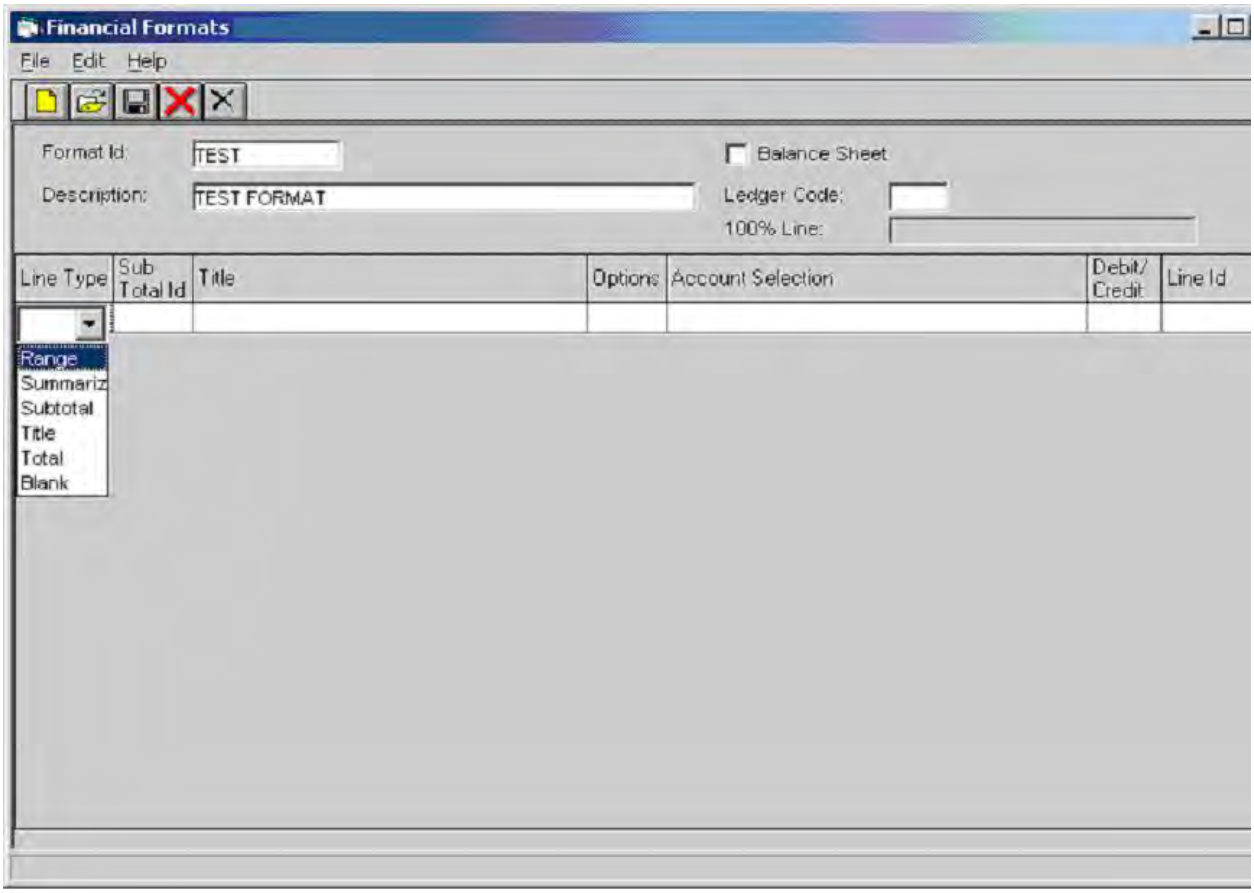
In the financial format you specify which chart of accounts and which individual accounts within that chart that you want to use in the report. The ledger code field specifies which chart of accounts is being used in the format.

The Balance Sheet box is used to indicate if you want the system to calculate Retained Earnings. The box is typically checked if you are running a balance sheet. If the box is checked the report defaults to pulling in ending balances for the

accounts specified in the ranges for the runtime period. Also the report will calculate retained earnings by summing all balances for the current fiscal year for accounts defined as income statement accounts in the chart and placing that summed amount in the defined retained earnings account.

If the box is unchecked the report defaults to pulling in account activity for the accounts specified in the ranges for the runtime period. You can also summarize amounts by major accounts by selecting the Summary option on the runtime options for the income statement report.

In financial formats the Reverse Amount option, controls the math on the report and the Debit/Credit column controls the signage.



RANGE – Used to define one or more ranges of accounts to use in a section of the report. The system displays the name of each account number in the range that has a balance.

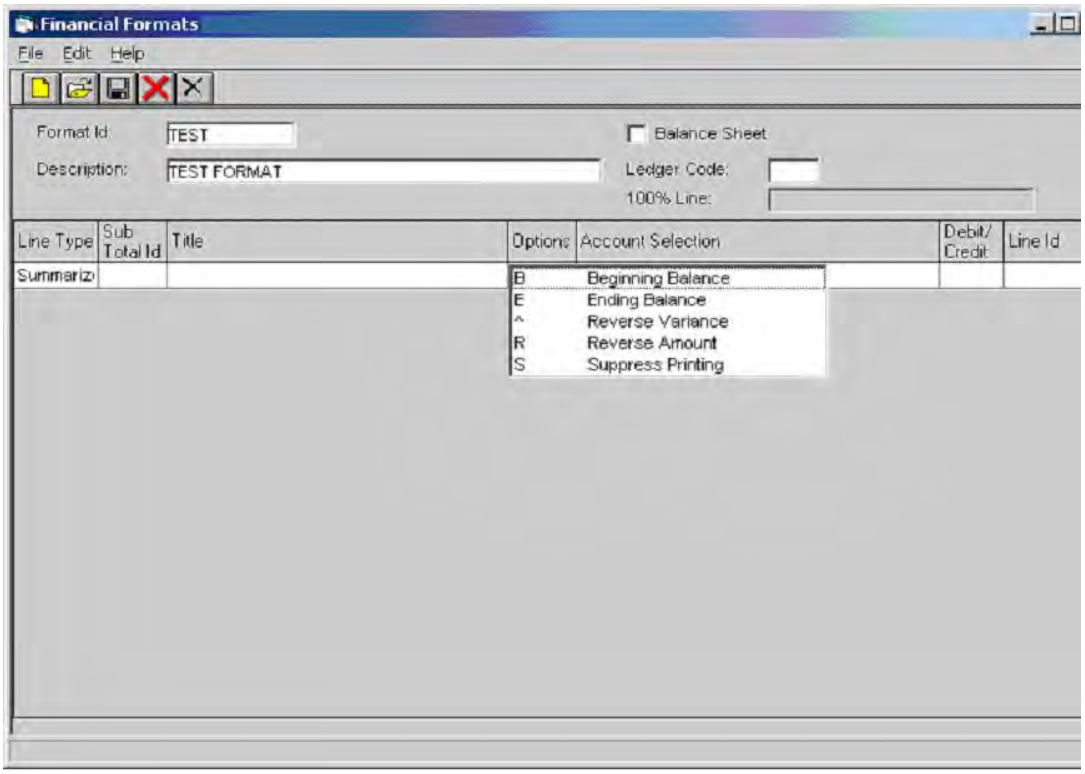
SUMMARIZE – Used to group a range of like accounts into one summarized line. The system only prints one summarized line using the description in the title field.

SUBTOTAL – Used to sum the balances of all preceding Range and Summarize lines that are not included in a previous Subtotal. The system assigns a Sub Total Id number which is used to specify totals elsewhere in the report.

TITLE – Used to label a section of the report.

TOTAL – Used to identify a line in the report as a total of specified subtotals.

BLANK – Used to create a blank line on the report for spacing purposes.



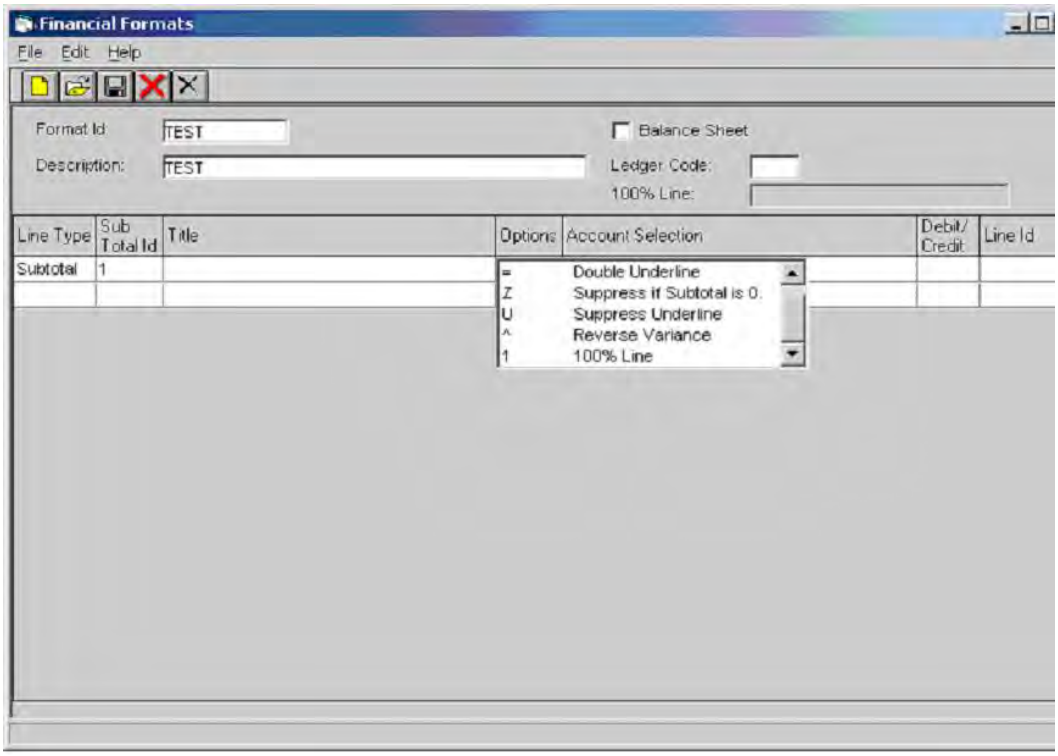
B – The line uses the account balance at the beginning of the period rather than the default for the report type, which is ending balance for Balance Sheet and activity for the period for Income Statement. Can be used on Range & Summary type lines.

E - The line uses the account balance at the ending of the period rather than the default for the report type, which is activity for the period for Income Statement. Can be used on Range & Summary type lines.

^ - The line multiplies the dollar and percent variances on a comparative report by negative one. Can be used on Range, Summarize, Subtotal & Total lines.

R – The line multiplies the amount by minus one. Can be used on Range and Summarize lines.

S – Suppresses the printing of the line completely.



= - Prints a double line below the total or subtotal in the report. Can be used for Total and Subtotal lines

Z – Suppresses the printing of the line if the amount is zero. Used in Subtotal lines.

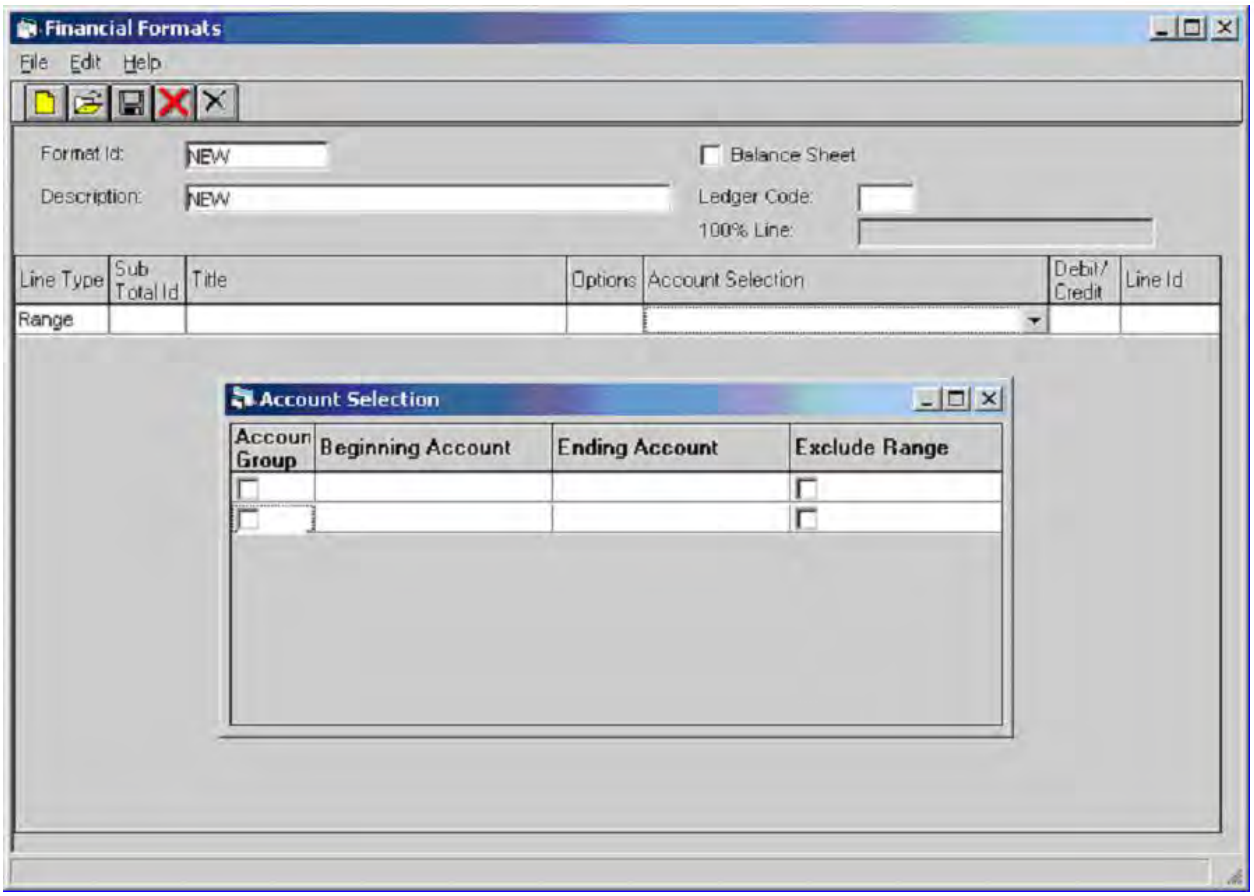
U – Suppresses the printing of the underline on Subtotal or Total lines.

1 – Used to identify which subtotal is defined as the 100% line. Used in reports where the SUB100 function is being used to calculate percentages for each line of the report. To calculate the percentages, the system divides each balance, subtotal, or total by the total or subtotal specified as the 100% line.

P – Forces the section title to print on a new page.

S – Suppresses the test in the Title field on a title line if the related subtotal equals zero.

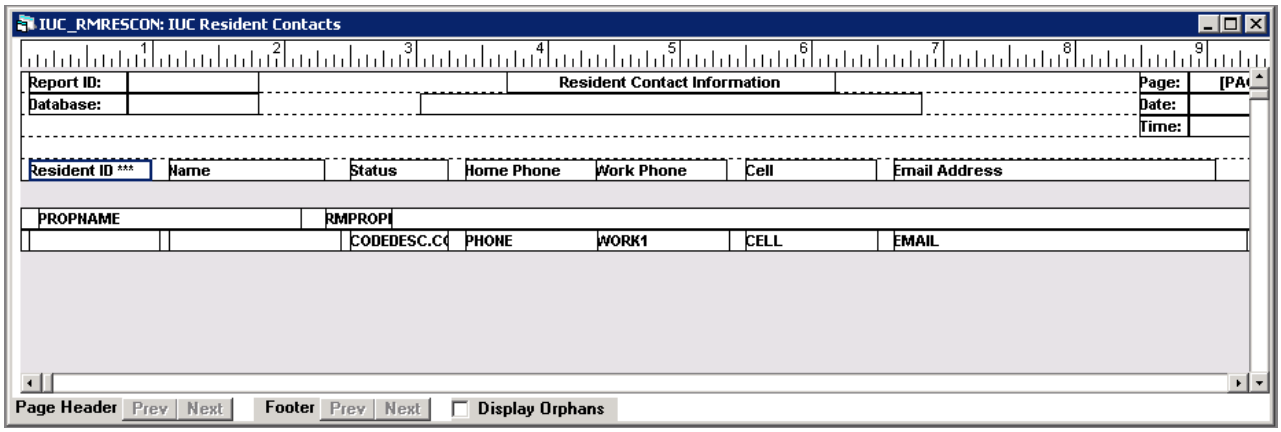
Advanced Report Design - RM



Individual accounts or account groups can be selected or excluded on either a range or summary line type.

Creating a Residential Management Report

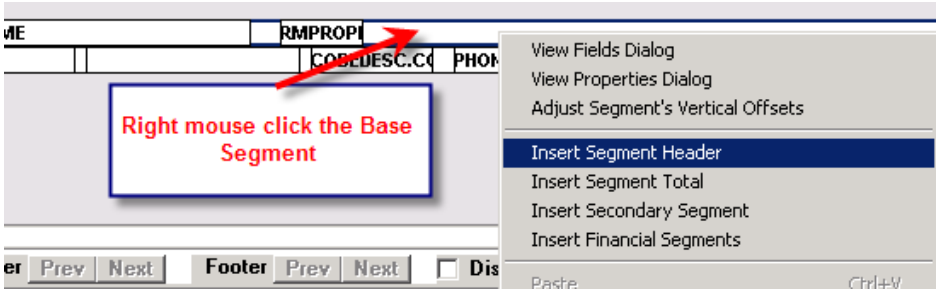
This process is very similar to creating a financial report with the exception that the segment names are slightly different. For non-financial reports, you will typically have, at a minimum, a page header and a primary segment which the main output of the report is based on. For instance, if we were creating a custom Resident Contact Listing, The primary segment is based on the RMPROP table and a secondary segment based on the NAME table.



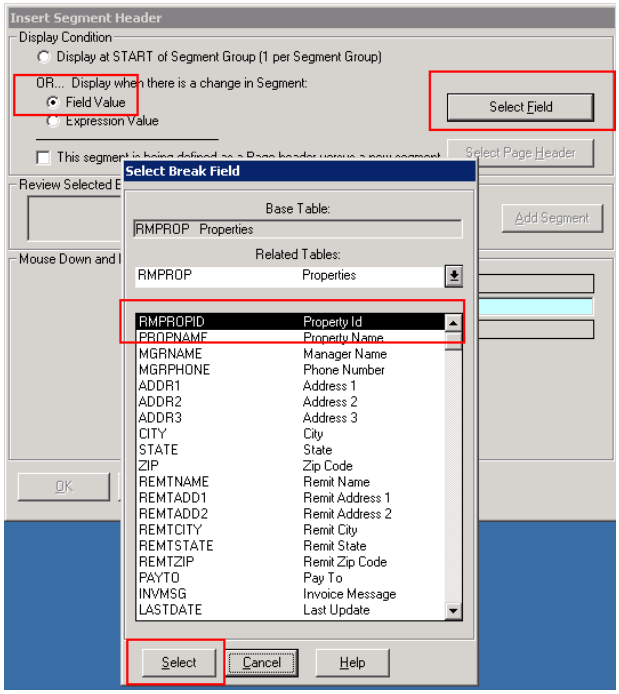
The page header will hold all of the header details including the report title, date, page numbers, and column headers. The primary segment includes the fields or cells. In our example the primary segment contains the RMPROPID and PROPNAME fields.

To get the property to print at the top of each page you would need to do a couple of things.

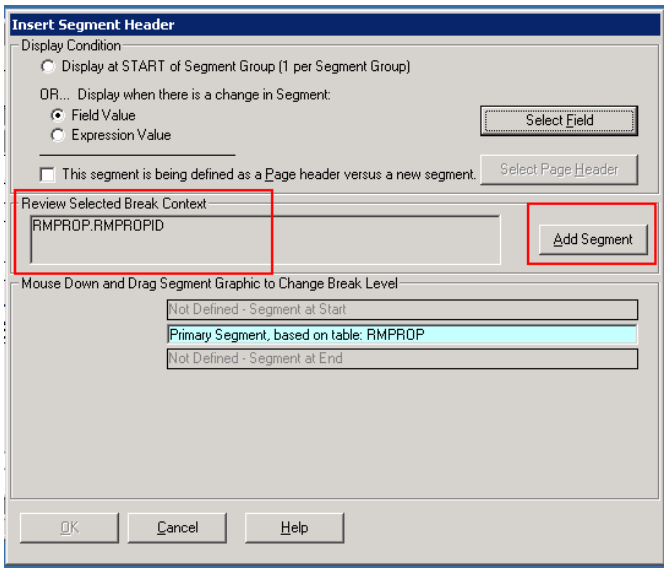
- Name the Cells that would be referenced.
- Add a calc cell on the page header that references those Cells within the Expression: TRIM{CELL{RMPROPID}} - CELL{PROPNAME}
- Insert a Segment Header (not to be confused with a Page Header) based on the RMPROPID.

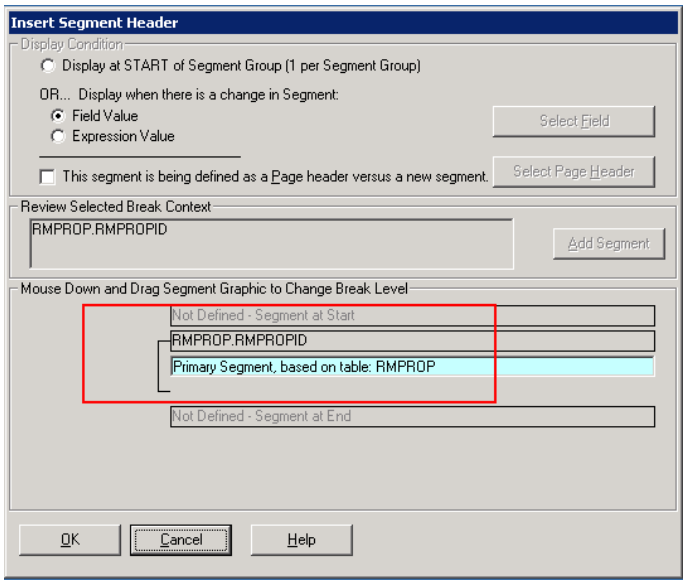


Select the Field Value -> Select Field -> RMPROPID -> Select

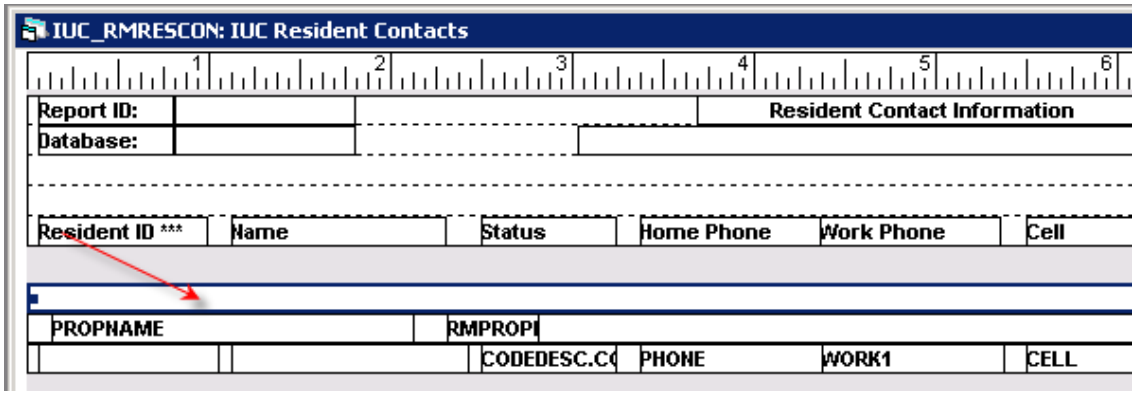


Screen will look like this. Press the Add Segment to move it into the Segment Graphic section.

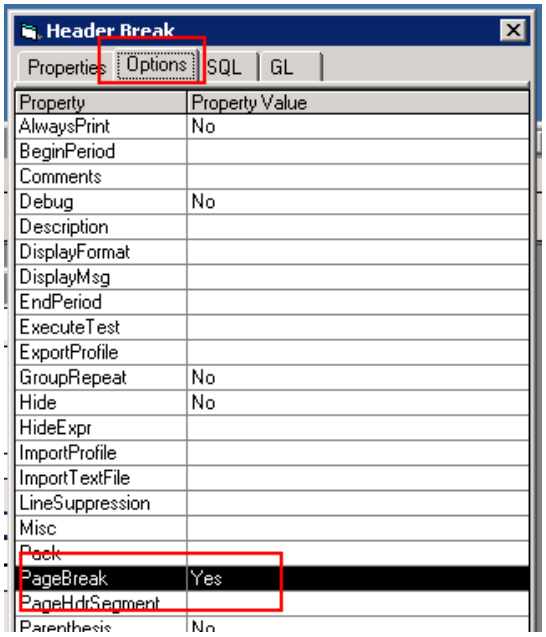




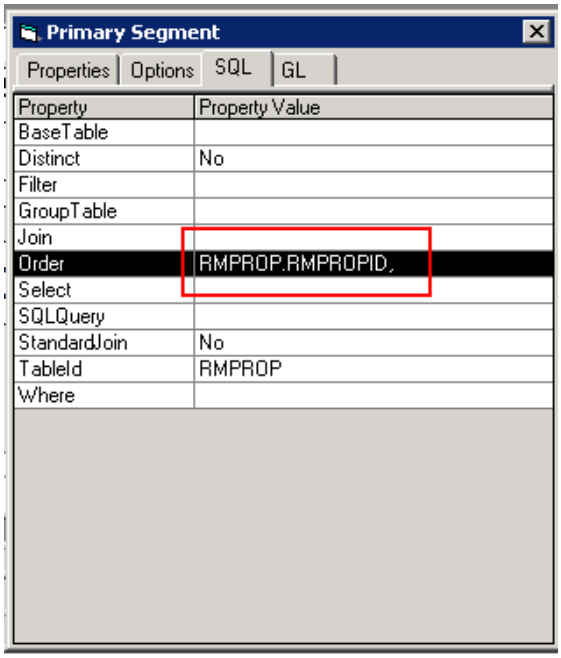
Once satisfied with the placement, Press OK
Now have a new header segment added to the report.



Within the properties – Options tab of this segment you would add a page break.

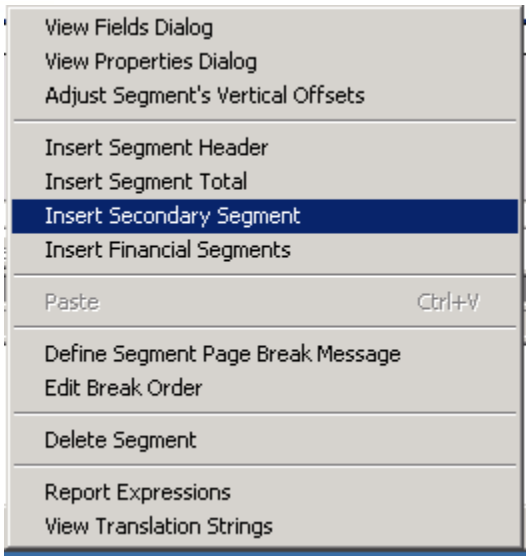


Note: Whenever you insert a header or Total Segment the Order is assumed. However, the process will add an extra comma at the end that needs to be removed or else you will get an error when running the report.



In our example there is a secondary segment based on the NAME table.

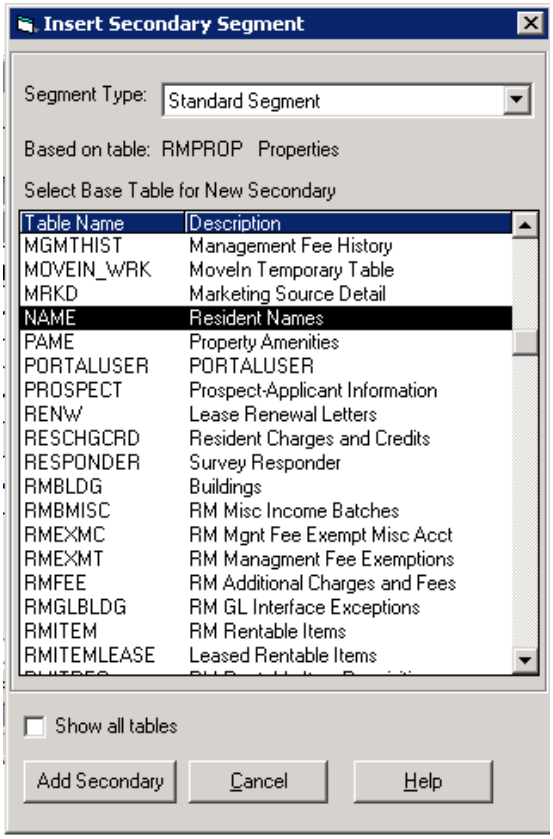
To add a secondary table to a report, you right click your mouse on the primary segment.



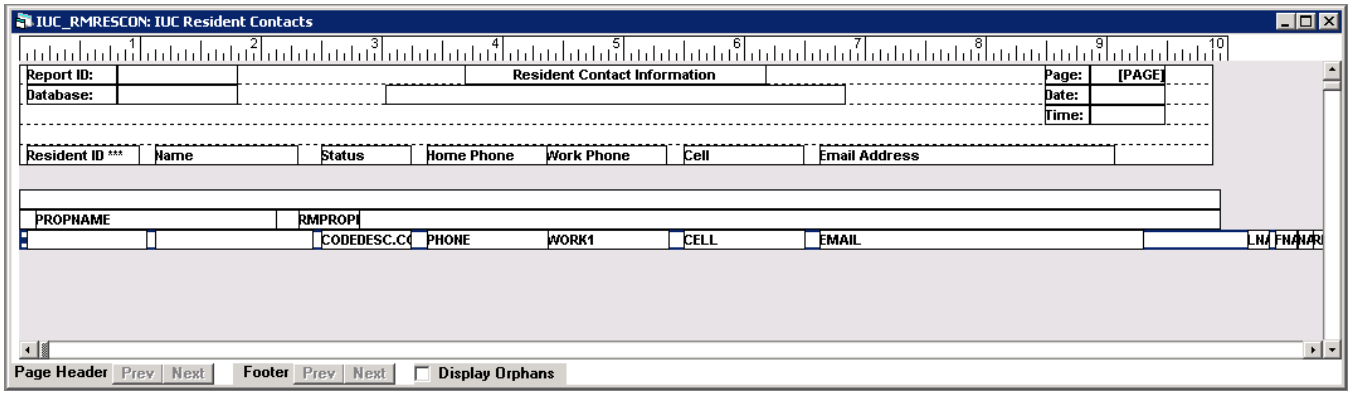
This menu allows you to do a number of things including "Inserting a Secondary Segment". A few other options worth highlighting here include:

- Insert Segment Header – allows you to insert a header above a secondary segment
- Insert Segment Total – allows you to insert a total segment for a secondary segment
- Report Expressions – allows you to find references to segments, cells, expressions, etc.
- View Properties – displays properties for the selected object

Upon choosing "Insert Secondary Segment", you must select a table to base the segment on. MRI includes some unique database management properties that allow it to automatically display all tables related to the primary table for the report. This is a HUGE time saver as it eliminates the need for users to manually join the secondary table to the primary table. You do have the option to "Show all tables". If you choose a table that doesn't have a direct relationship with the primary table, you must then create a manual "join" between the two tables to establish the appropriate relationship.



Once the segment is added various fields can then be dropped onto this segment from the Fields Dialog.

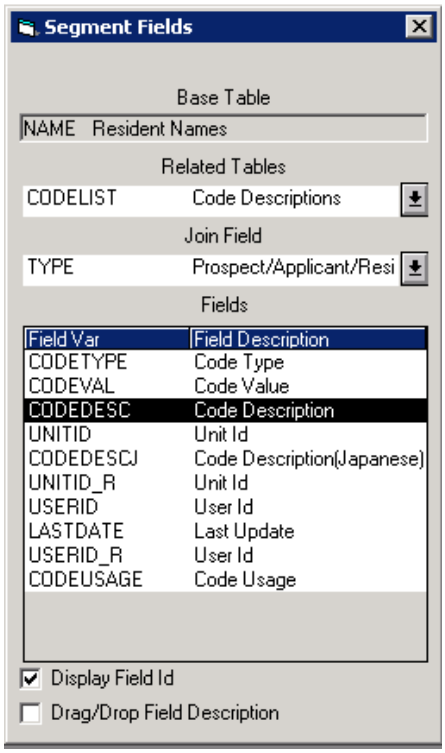


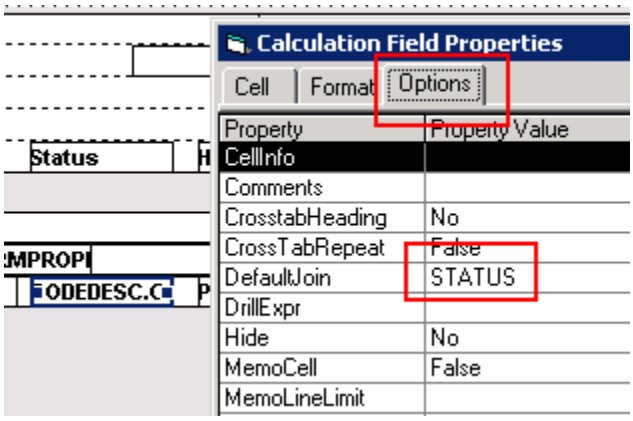
Notice that some of the fields were dropped outside the Print parameters and hidden. This is valuable for collecting information to use elsewhere. The FIRSTNAME and LASTNAME fields are an example of this. Then in a calculation cell the 2 fields are concatenated.

Name Cell
Expression: CELL{LASTNAME}, CELL{FIRSTNAME}

Resident id Cell
Expression: CELL{RMBLDGID}-CELL{UNITID}-CELL{RMLEASE}

The CodeDesc from the CODELIST table is added for the Status. This field needs a special JOIN to pull the correct description.





Under the Options tab the DefaultJoin property is STATUS for the STATUS field from the NAME table.

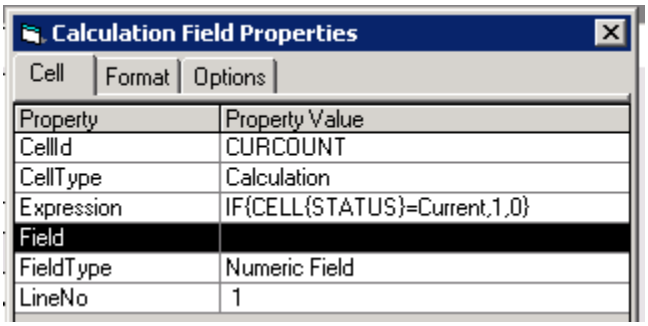
If we run the report now, it looks as follows.

Report ID: IUC_RMRESCON
Database: HLHDB2K501
Resident Contact Information
107 - IUC Property
Page: 1
Date: 10/13/2011
Time: 06:17 PM

Resident ID	Name	Status	Home Phone	Work Phone	Cell	Email Address
01-0101-4	Du ley, Henry	Current	(202) 3			@gmail.com
01-0102-5	Ga ewood, Matthew	Current			(304) 5	u@gmail.com
01-0103-8	Sp tes, Kathryn	Current	(202) 2	(202)	(202) 4	pates@gmail.com
01-0104-2	Jo eph, Jillian	Current			(434) 9	s@gmail.com
01-0105-2	Na da, Navreet	Current	(202) 9		(202) 2	n2000@yahoo.com
01-0106-7	De Silva, Ingrid	Current	(202) 2	(202)	(202) 6	rasilemb.org
01-0108-8	Na ndarkhan, Morvarid	Current			(972) 7	a@american.edu
01-0109-7	Ma tin, John	Current	(412) 4	(202)		@alumni.pitt.edu

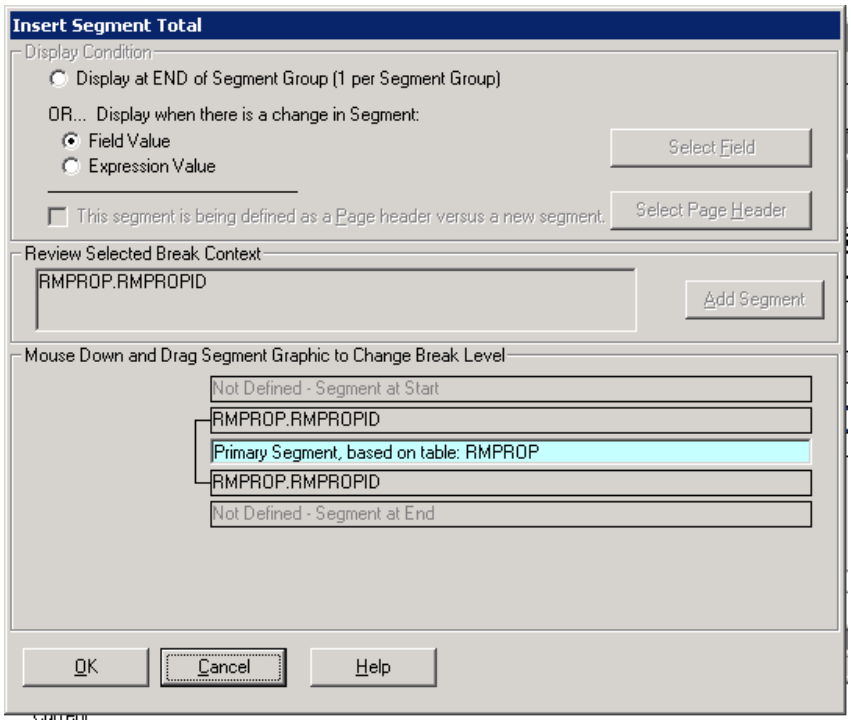
The next thing that would be helpful is to add some counters.

- Add a Calculation Field and name it CURCOUNT. This field will flag the Name records with a Current Status. It will have a conditional Expression value of 1. Don't forget to make sure it is a Numeric Field.



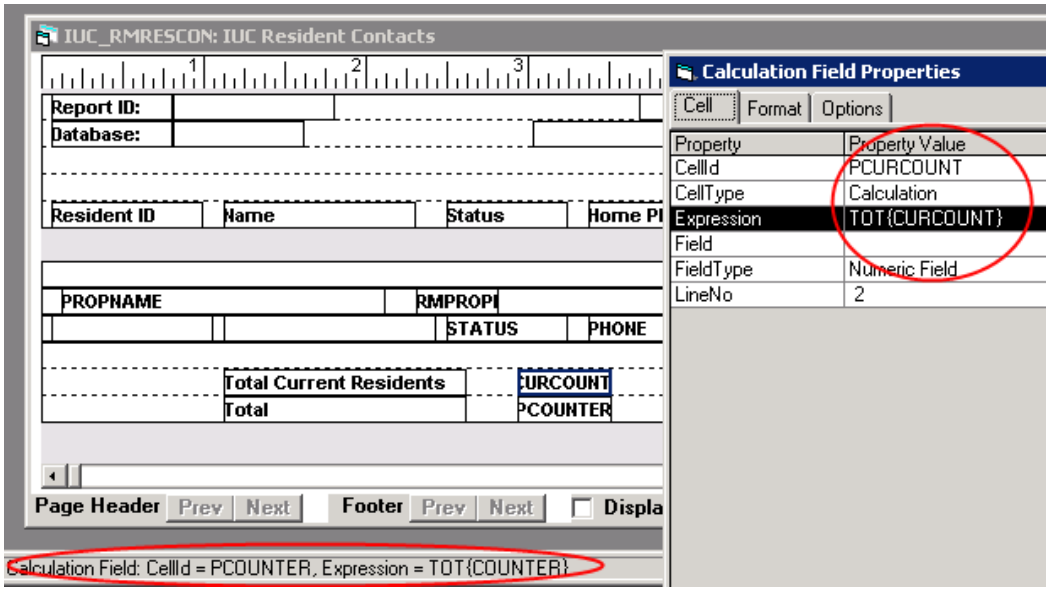
- Add a Calculation Field and name it COUNTER. This field will be for all Name records regardless of the status. It will have an Expression value of **1**

The next step is to add a Total Segment to accumulate these counters. Go back up to the Primary Segment that is based on RMPROP -> Right mouse click -> Insert Segment Total



Go through the same steps as creating a segment header by Select Field -> Choose RMPROPID -> Add Segment -> Position correctly -> OK

Then add the labels and the calculation cells.



Now the report looks like this.

Report ID: IUC_RMRESCON
Database: HLHDB2K501

Resident Contact Information
107 - IUC Property

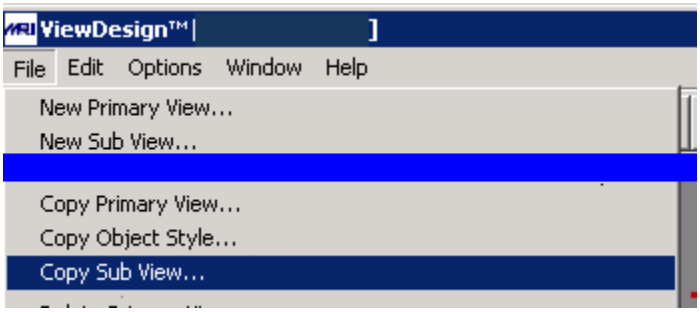
Page: 9
Date: 10/13/2011
Time: 07:24 PM

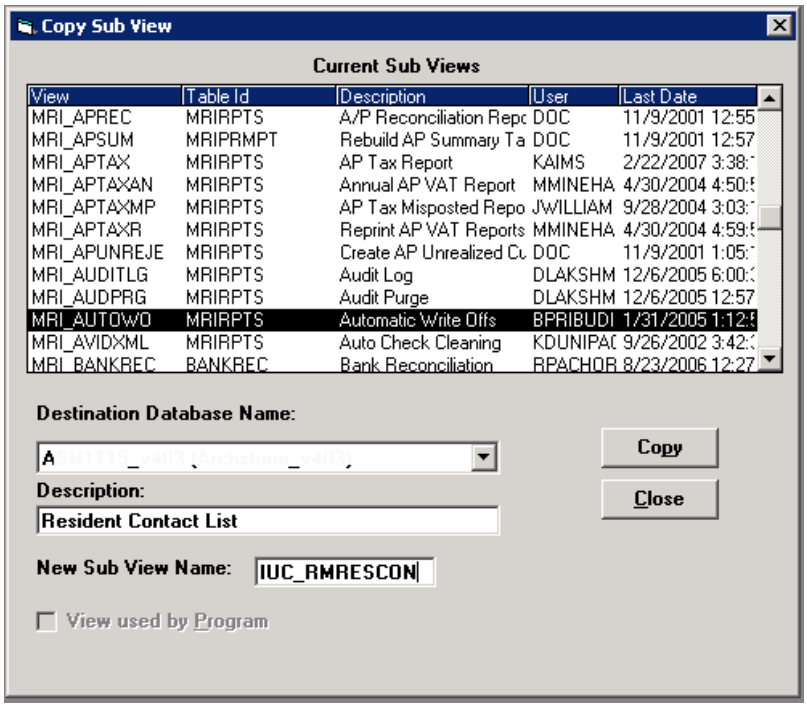
Resident ID	Name	Status	Home Phone	Work Phone	Cell	Email Address
01-L27-9	Figli zzi, James	Current	(51 978-3311	(516) ! 978-3311		jam zzi@gmail.com
01-L27-9	Vas uez, Michael	Co-Resident	(41 309-6886		(415) 309-6886	mv 08@gmail.com
01-L28-7	Zay ev, Yury	Current	(20 446-7761			z1: @rambler.ru
01-L28-7	Kon arova, Galina	Co-Resident	(20 446-7761			
01-L29-6	Ahr d, Agha	Current	(50 704-3305		(503) 704-3305	ahr ed@msn.com
01-L30-5	Nov s, Luiz	Current	(20 318-0101			no :@uol.com.br
01-L30-5	Dut , Isabela	Co-Resident	(20 248-6674			
	Total Current Residents		223			
	Total		367			

Since we would like this to be more flexible we would need to add “run-time” options. This is done through View Design for Windows and Web Design for the Web.

Note: As a common practice I often start with the View Design so I can see the field names within the Report Design. Once I am satisfied with the view it can be Web-enabled easily.

The first step is to copy a Sub View from an existing Run-time view.

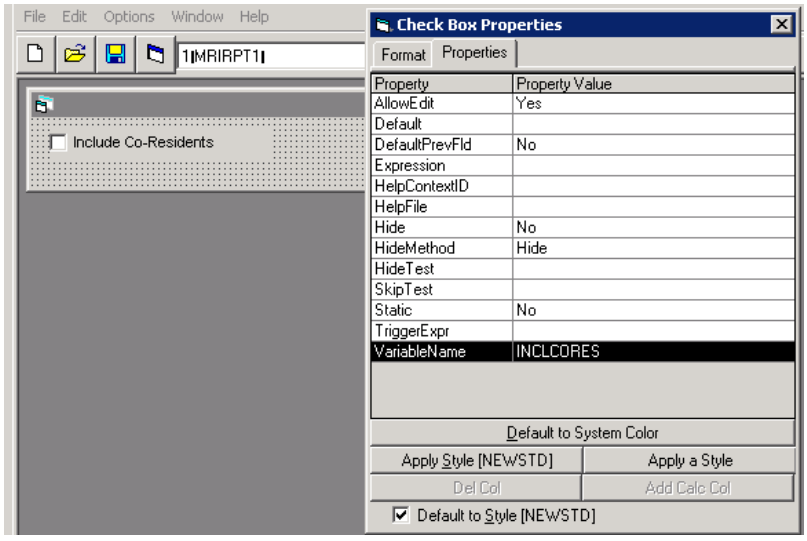




It is helpful to name the Sub View the same name as the Report.

Notice that all the Windows Run-time Sub Views are associated with a table named MRIRPTS.

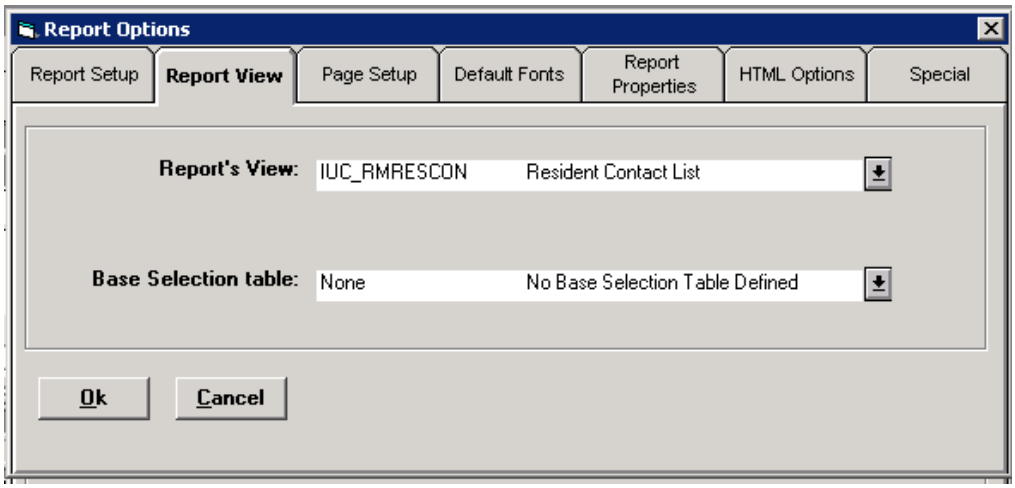
Open the View and make changes.



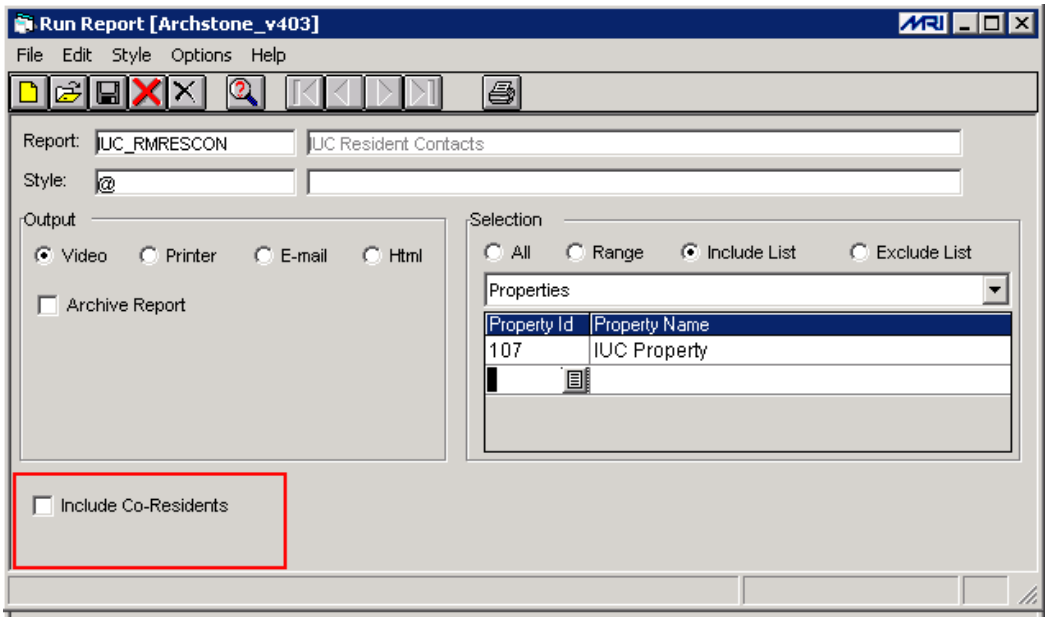
In this example I reformatted the checkbox and changed its name to INCLCORES

Next Link this view to the Report.

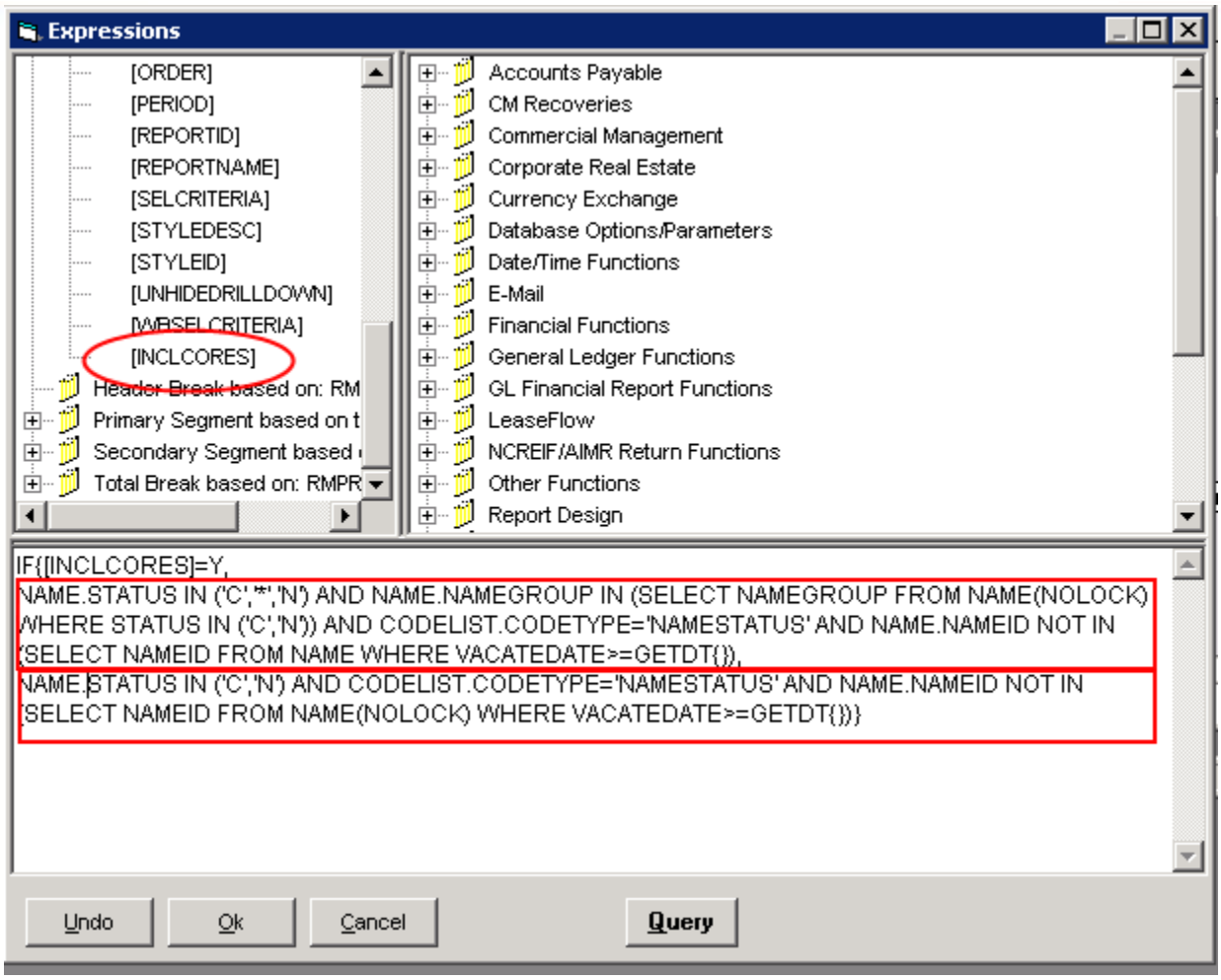
Within Report Design. Edit -> Report Options -> Report View



This will associate the view with the report.

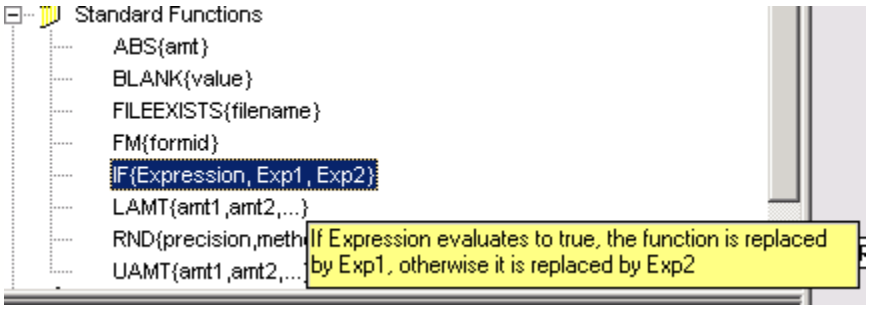


Next you will need to add the filter to the NAME segment to restrict the selection if Co-Residents are not selected.



Notice that the INCLCORES is not in the Run time List.

Get your SQL hats on and notice that we are using an IF{} function in the WHERE clause of the NAME Segment.



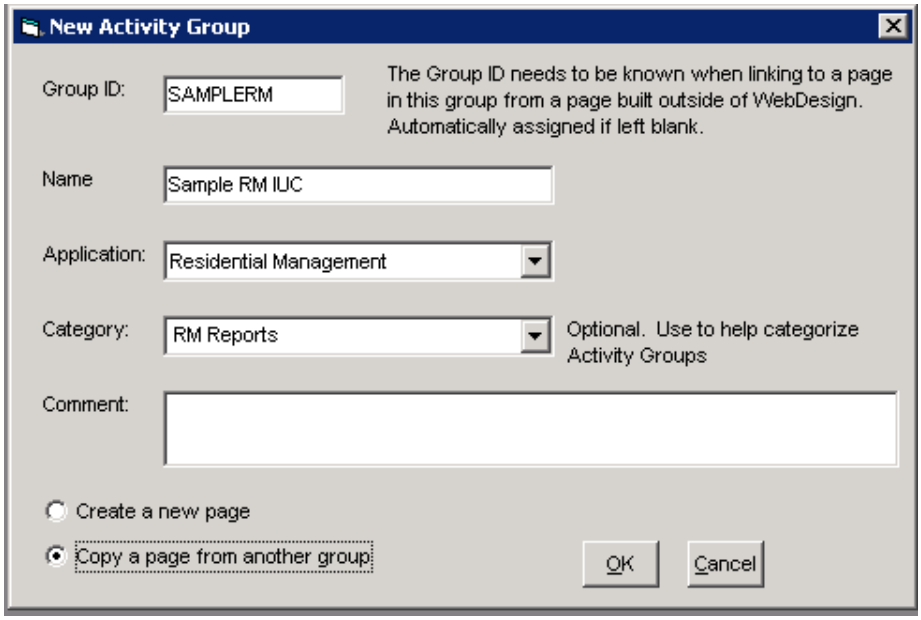
The last step would be to Web enable the report through Web Design.

Complete the following steps create a custom report page that contains report parameters:

1. Select **File>New Activity Group**.

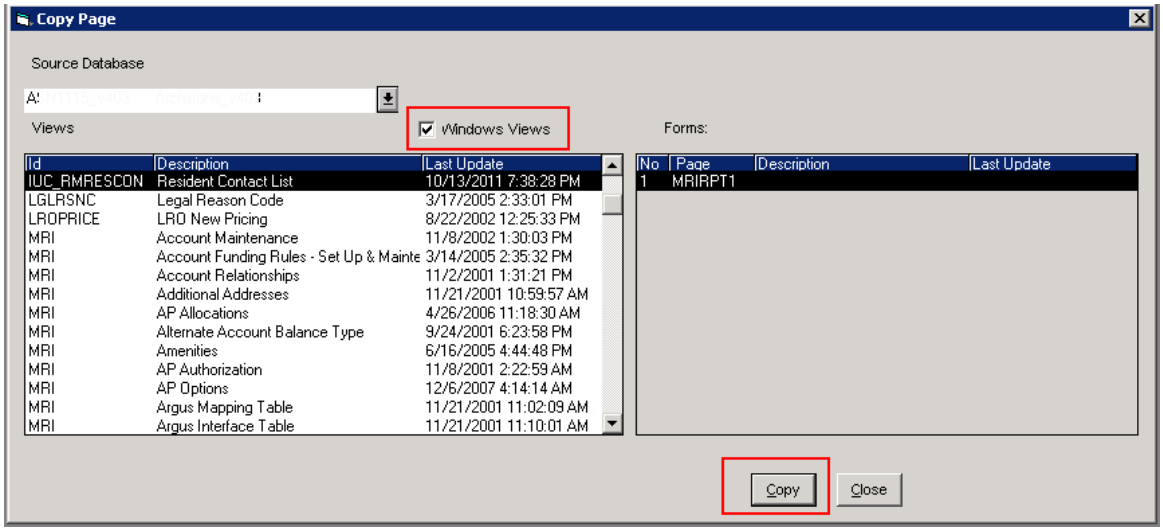
   The New Activity Group dialog box appears.

2. Click **Copy a page from another group**, and click **OK**.

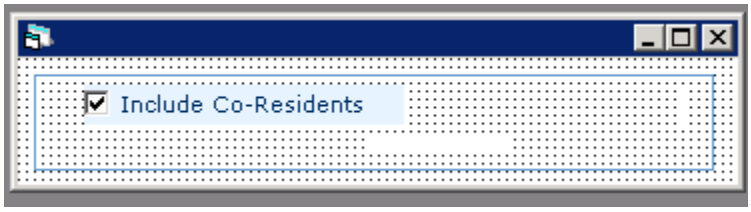


The Copy Page dialog box appears.

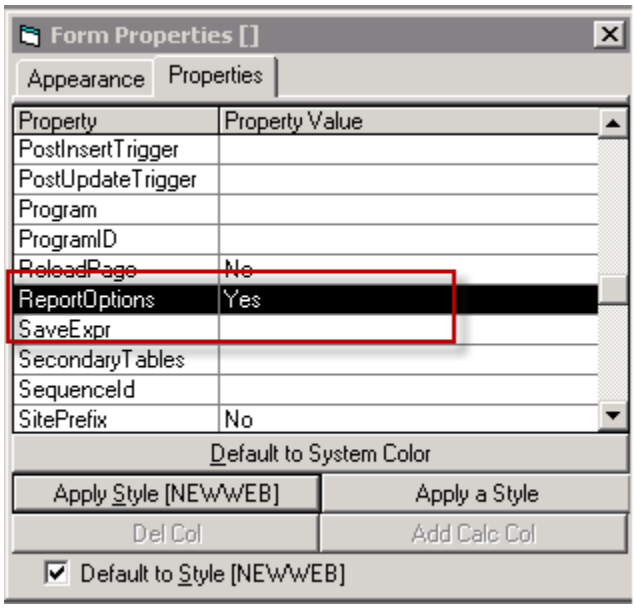
3. Check the **Windows Views** checkbox.
4. Select the **view**, and click **Copy**.



5. Add the DIV and spacers to the page.
6. Highlight all objects on the page and click Apply Style from the properties dialog box.



7. Open the properties dialog box for the form and click on the Properties tab.
8. Select **Yes** for the value of the **ReportOption** property value.

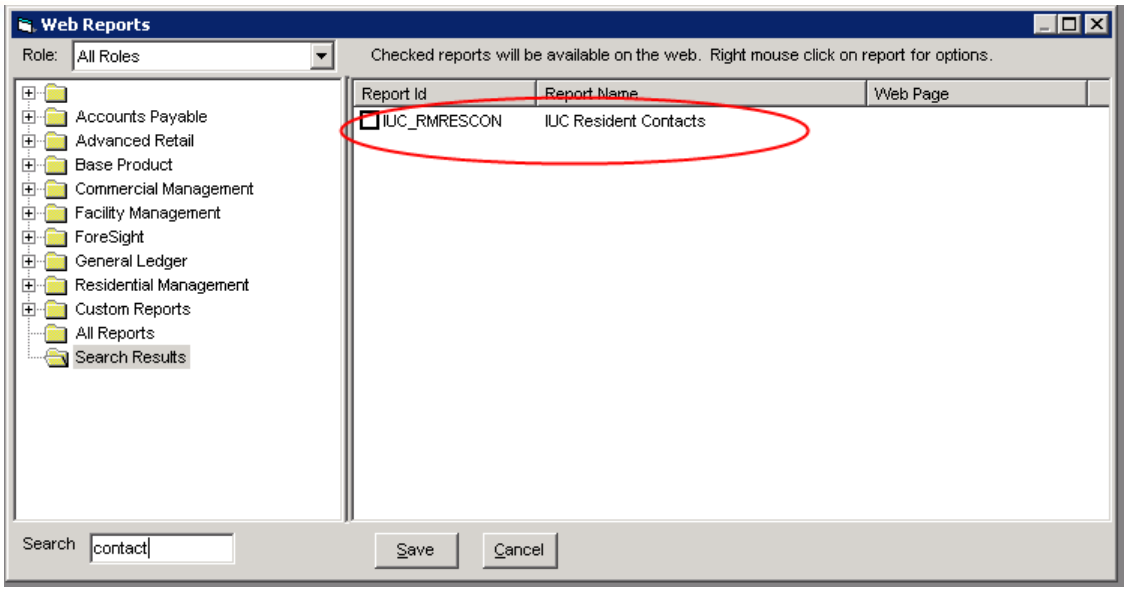


Note: Setting the *Report Option* property to yes is required when creating custom report option pages.

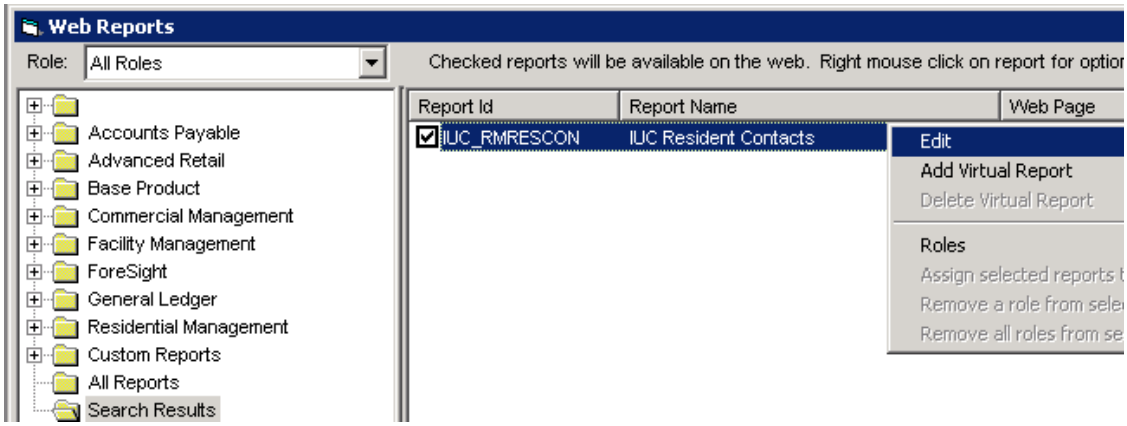
Complete the following steps to make a report available to Web users:

- Select **File>Web Reports** to display the Web Reports dialog box (see below).
- On the left side of the dialog box, open the **All Reports** folder.
- The reports in the folder appear on the right side of the dialog box.
- Select the check box next to the IUC_RMRESCON report ID to make the report available in MRI for the Web.

Advanced Report Design - RM

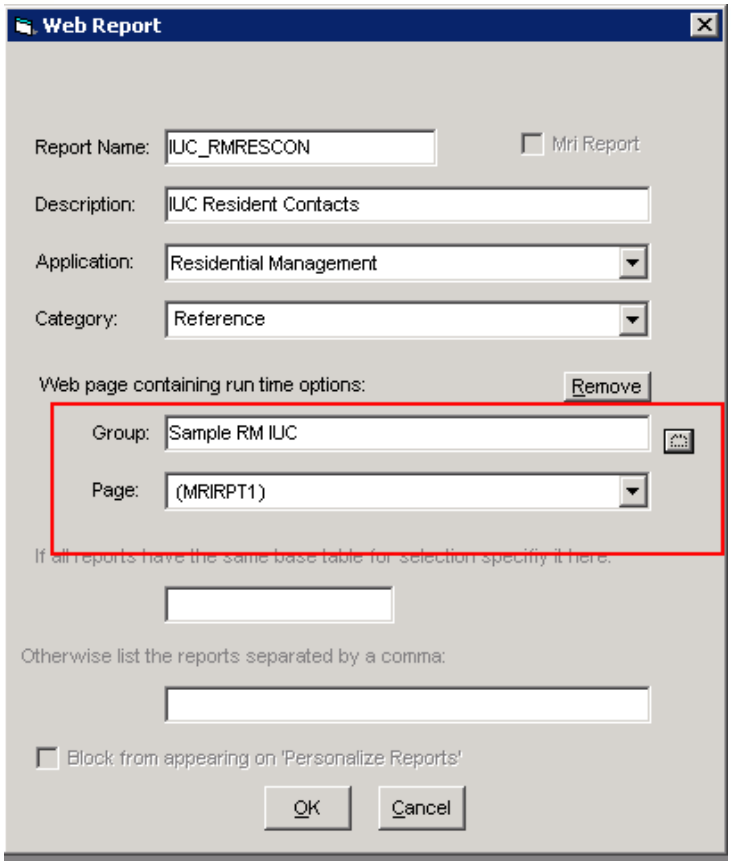


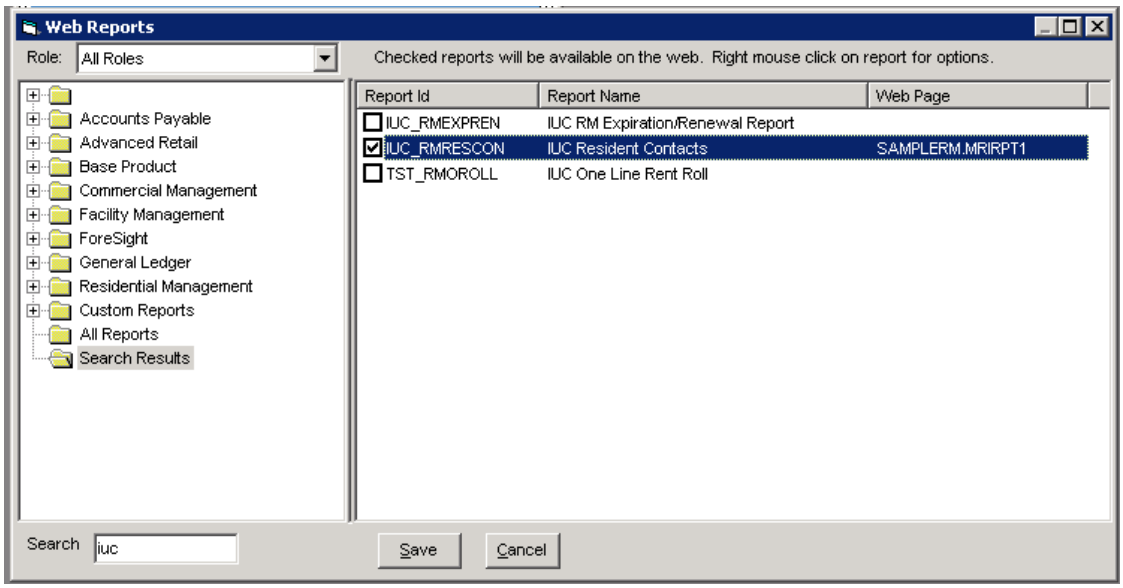
- Right-click the report to display the shortcut menu, and then click Edit.
- Select the activity group that has the custom web report option (see below).



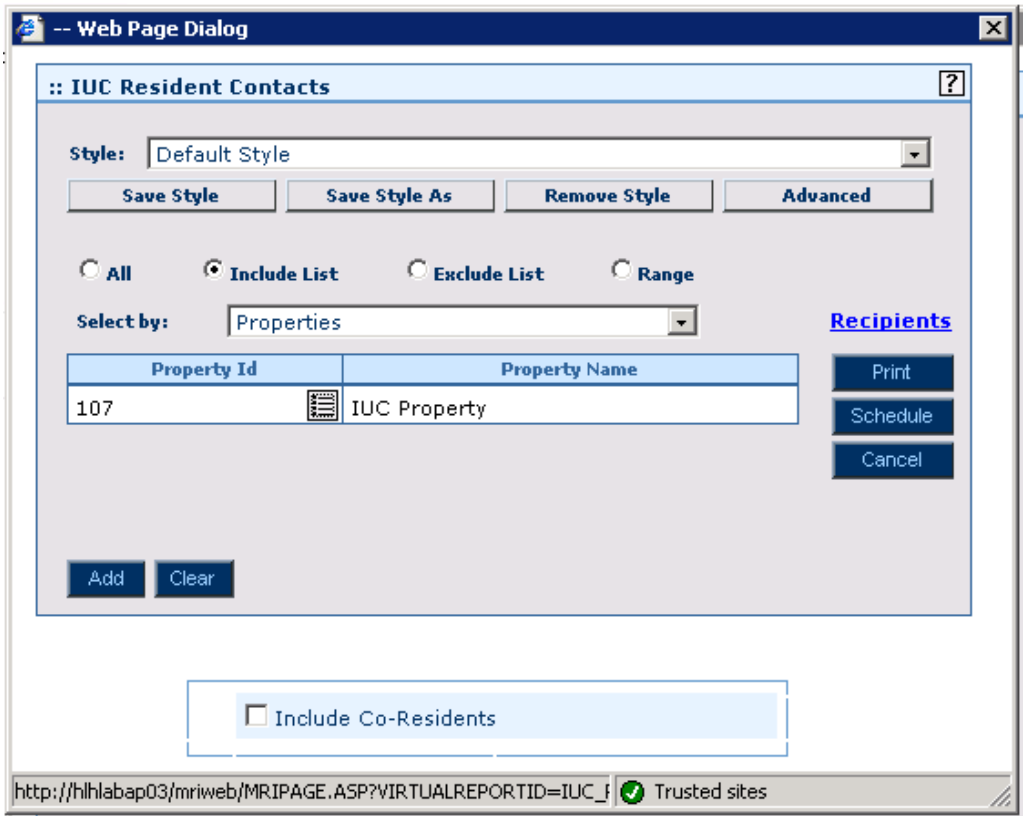
- Click **OK**.
- Click **Save**.

Advanced Report Design - RM





Advanced Report Design - RM



While there are certainly a number of additional enhancements that could be made to this report to improve its appearance, in just a few minutes, you can produce meaningful outputs from MRI using the Report Design tool.

Advanced Report Design - RM

NOW, Creating an Advanced Report for Residential Management

Session Description:

Builds on the concepts learned in Introduction to Report Design. Discover how to use your knowledge of SQL to create more complex reports by using the SQL features o f the report writer. Discover common report design functions as well as how to use “IF” statements to create skip expressions or tests.

Learning Outcomes:

Gain a working understanding of the Dialog Box in report writer and develop a working knowledge of how to use the Expression Builder along with common functions built into MRI. Learn how to sue transact SQL and IF statements to create more complex report. Learn how to debug reports.

Per-Requisites:

Introduction to Report Design or practical use or experience with basic SQL queries and Report Writer knowledge.

A few tables in RM

NAME, Resident Names

Fields: NAMEID, RMPROPID, RMBLDGID, UNITID,RMLEASE

Used for: Name Id, RM Property Id, RM Building Id, Unit Id, RM Lease Number, First Name, Last Name, NameGroup

RMLEASE, Residential Leases:

Fields: RMPROPID, RMBLDGID, UNITID,RMLEASE

Used for: Occupy Date, Expiration Date, Vacate Date, Current Term Start Date

RMRECC, RM Recurring Charges:

Fields: RMPROPID, RMBLDGID, UNITID,RMLEASE

Used for: Charge Codes, Effective Dates, Amounts

RMLEDG, RM Ledger:

Fields: NAMEID, RMPROPID, TRANID

Used for: Transaction Date, Charge Code, Source Code, Transaction Description, Transaction Amount, Open Amount, GL Reference, RM Batch Id

Now let's talk about finding records when you have only the NAMEID or the RMPROPID, RMBLDGID, UNITID, and RMLEASE.

You can certainly find the NAMEID first and then use that value to retrieve the information you're looking for OR you can join the tables.

- With an INNER JOIN, only matching records from both tables will be returned.
- With a LEFT JOIN, all records from the first table are returned, even if there's no matching record in the second table.
- Use a LEFT JOIN if the foreign key fields might be null.

Inner Join to RMRECC:

select rmrecc.* from name(nolock), rmrecc(nolock) where name.rmpropid=rmrecc.rmpropid and name.rmbldgid=rmrecc.rmbldgid and name.unitid=rmrecc.unitid and name.rmlease=rmrecc.rmlease and name.lastname='Russell'

Left Joins to RMRECC:

select rmrecc.* from name(nolock) left join rmrecc on name.rmpropid=rmrecc.rmpropid and name.rmbldgid=rmrecc.rmbldgid and name.unitid=rmrecc.unitid and name.rmlease=rmrecc.rmlease where name.lastname='Russell'

select rmrecc.* from name(nolock) left join rmrecc on name.rmpropid=rmrecc.rmpropid and name.rmbldgid=rmrecc.rmbldgid and name.unitid=rmrecc.unitid and name.rmlease=rmrecc.rmlease where name.nameid='HO00000058'

Inner Join to RMLEASE:

select rmlease.* from name(nolock), rmlease(nolock) where name.rmpropid=rmlease.rmpropid and name.rmbldgid=rmlease.rmbldgid and name.unitid=rmlease.unitid and name.rmlease=rmlease.rmlease and name.lastname='Russell'

Left Joins to RMLEASE:

select name.nameid, name.rmbldgid, name.unitid, rmledg.* from name(nolock) left join rmledg on name.nameid=rmledg.nameid and name.rmpropid=rmledg.rmpropid where name.lastname='Russell' and trandate>='12/31/07'

From the SQL II training:

Save Time Typing With A Pre-built RM Join Clause

Writing queries in RM frequently requires joining two or more tables based on RMPROPID/RMBLDGID/UNITID/RMLEASE. Save time by keeping this bit of text around somewhere:

A.RMPROPID=B.RMPROPID AND A.RMBLDGID=B.RMBLDGID AND A.UNITID=B.UNITID AND A.RMLEASE=B.RMLEASE

Now any time you need to join two tables, just use the aliases A and B, and you can paste in your pre-built join expression:

SELECT * FROM RMRECC A INNER JOIN RMLEASE B ON A.RMPROPID=B.RMPROPID AND A.RMBLDGID=B.RMBLDGID AND A.UNITID=B.UNITID AND A.RMLEASE=B.RMLEASE

This is much easier than:

SELECT * FROM RMRECC INNER JOIN RMLEASE ON

RMRECC.RMPROPID=RMLEASE.RMPROPID AND RMRECC.RMBLDGID=RMLEASE.RMBLDGID AND RMRECC.UNITID=RMLEASE.UNITID AND RMRECC.RMLEASE=RMLEASE.RMLEASE

Create a report that calculates Court Fees for residents with a Late Charge and puts those charges into an open batch.

To accomplish this, a new batch needs to be created, residents that meet certain criteria are evaluated, transactions are inserted and updated while the TRANID is automatically updated, and the batch is ready to be posted.

Tips:

- Determine how you want to run the report
- Whenever possible, start with an existing report
- Build a little at a time; save often; run often
- Make frequent backups of the report
- Keep components separate for troubleshooting purposes
- Format the report last

To run this report by an individual resident or by the property, select the NAME Table as the Primary Table.

The primary table determines the hierarchy in the Selection Criteria. The primary table you select when beginning a new report should be on the lowest level needed for that report. This is necessary if you use related tables for adding fields to the report. When you add other table fields, the program can only access related tables that are higher in hierarchy than the primary table.

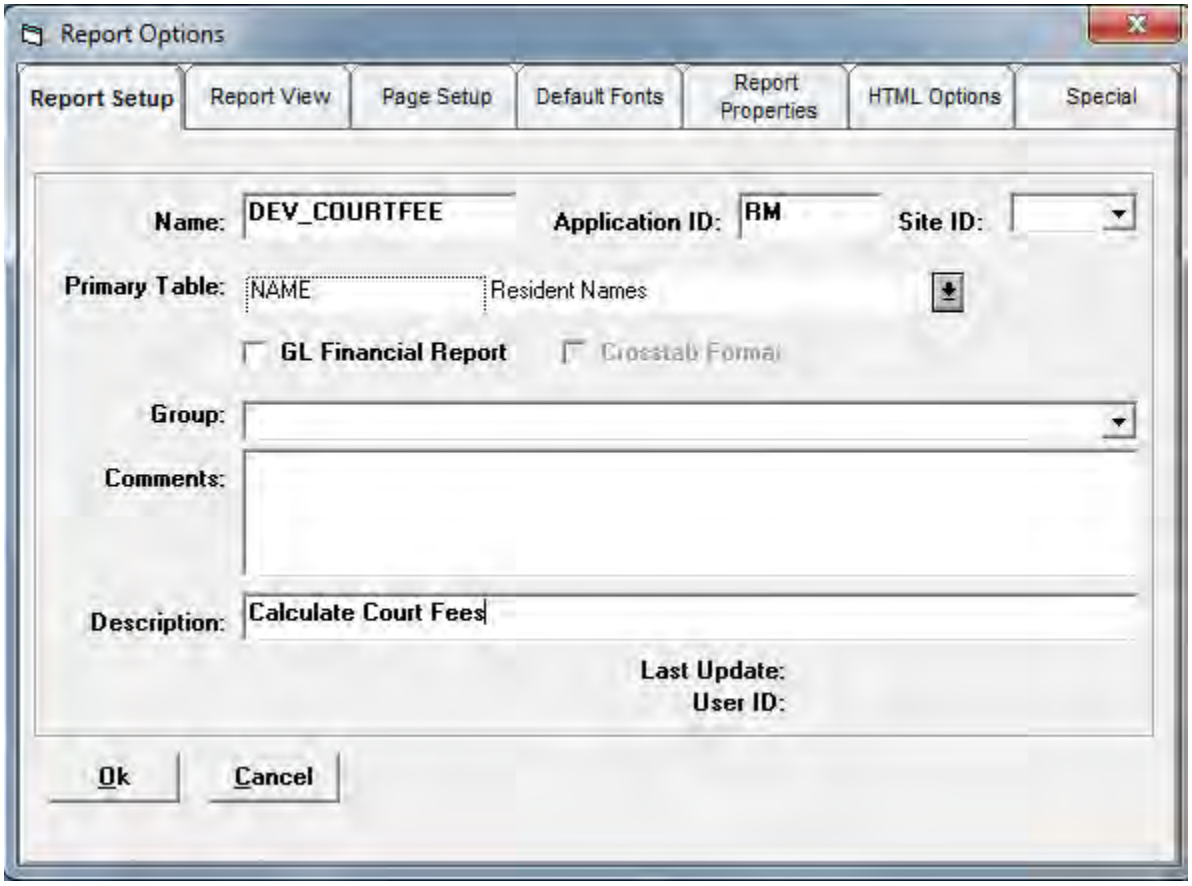
The conditions are that the resident records being evaluated are just Resident types and the status is current.

Based on the number of residents in the Unit, the report needs to calculate a Court Fee of $28 for the primary resident, plus $5 per other residents.

Then, add the records to the new RM Batch that was created, updating the appropriate amount fields so you can run Print Open Batch Listing and/or Post the Batch.

The following print screens show the steps to create this type of report.

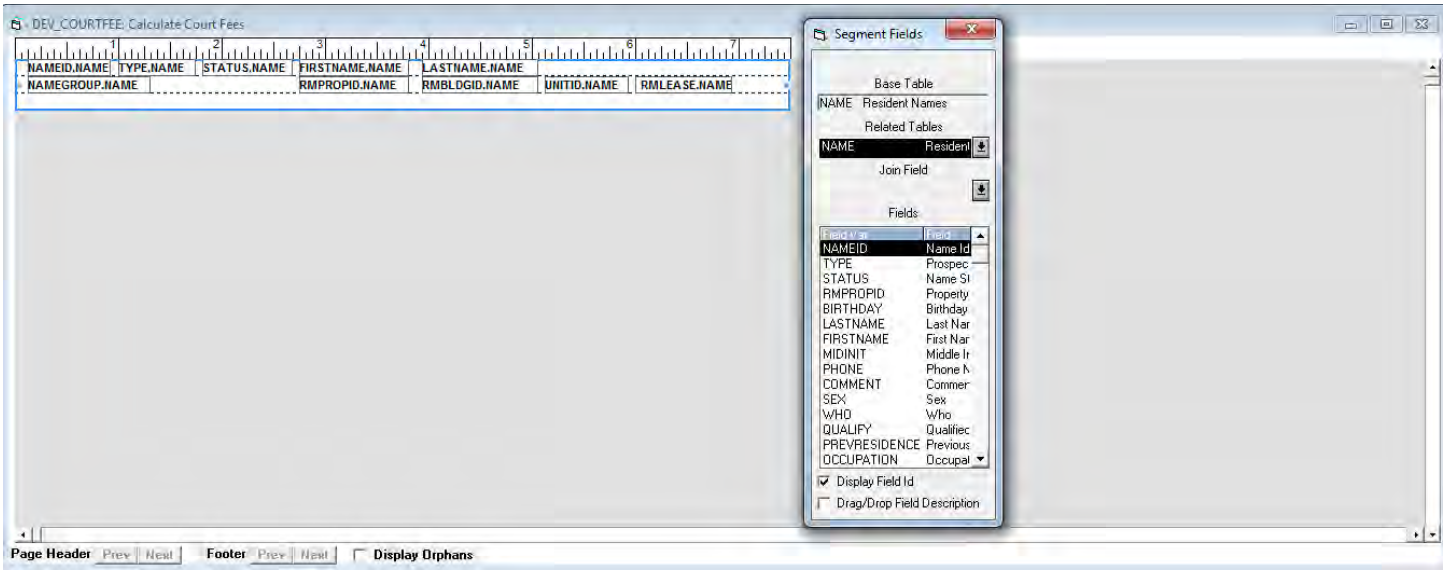
Open Report Design and Define a New Report.



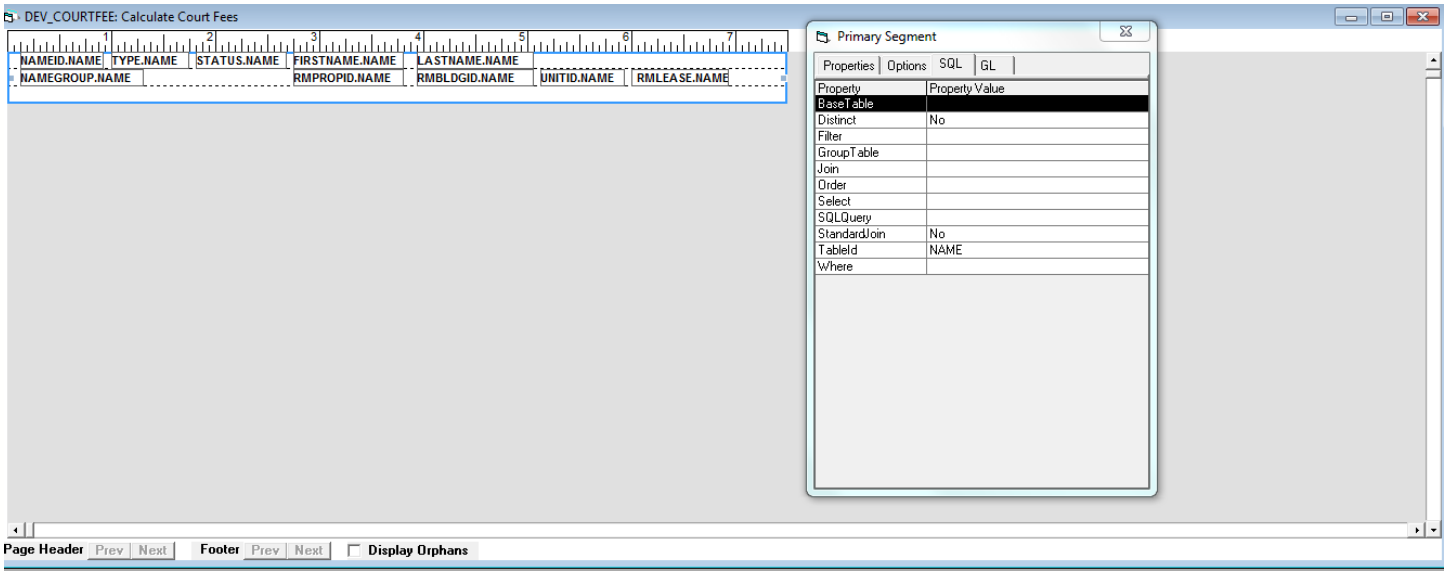
Tip: When developing a report, I always assign the prefix of DEV_ so it's not ever confused with the Production version.

Drag fields from the NAME or associated Tables to the Primary Segment.

Save.



Now, let's add the conditions.



SQL Tab

Each segment and object has "properties." The properties dialog box shows all attributes for that segment or object and may span over one or more tabs. The description of each tab denotes its basic purpose. For example, the SQL tab is used to set conditional parameters.

When you double click on the Property Value section of certain properties, such as

'Where' and 'Order', the *Expressions* dialog box appears.

Expression Dialog Box

The left side of the *Expressions* dialog box shows system-defined run-time variables and cells that you assigned a 'CellId' on the designated segment. The right side of the *Expressions* dialog box shows all MRI-defined functions cataloged by topic. The *Expression* Property Value is where you construct the expression statement.

TIP: When creating expressions, syntax is critical. Characters to understand:

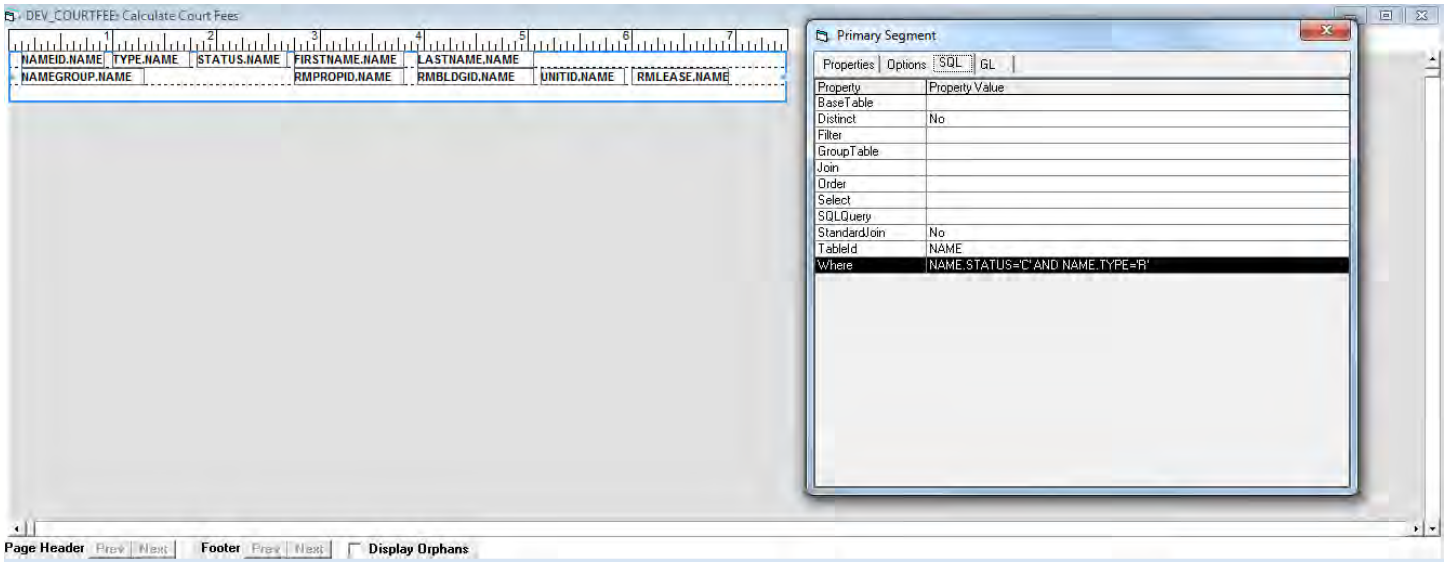
- Parenthesis ( ). Used for arithmetic expressions when order of operation is important.
- Braces { }. Used to denote a function.
- Brackets [ ]. Used to denote a variable name.

Hard Coding vs. Variable Conditions

A hardcoded condition is a static condition – this value will not change based on how you run the report.

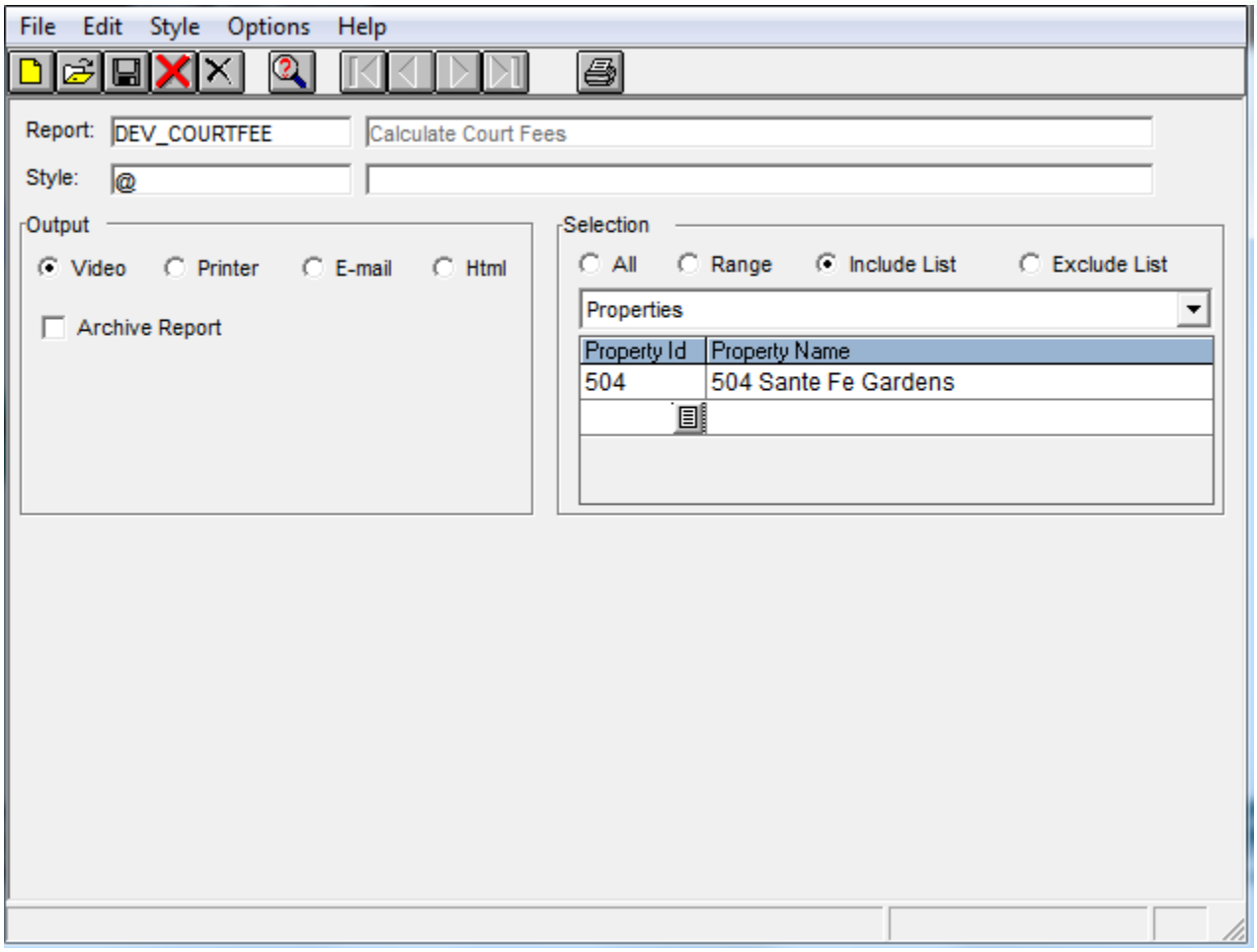
In our report, our "static" conditions are defined in the "Where" Property:

NAME.STATUS='C' AND NAME.TYPE='R'

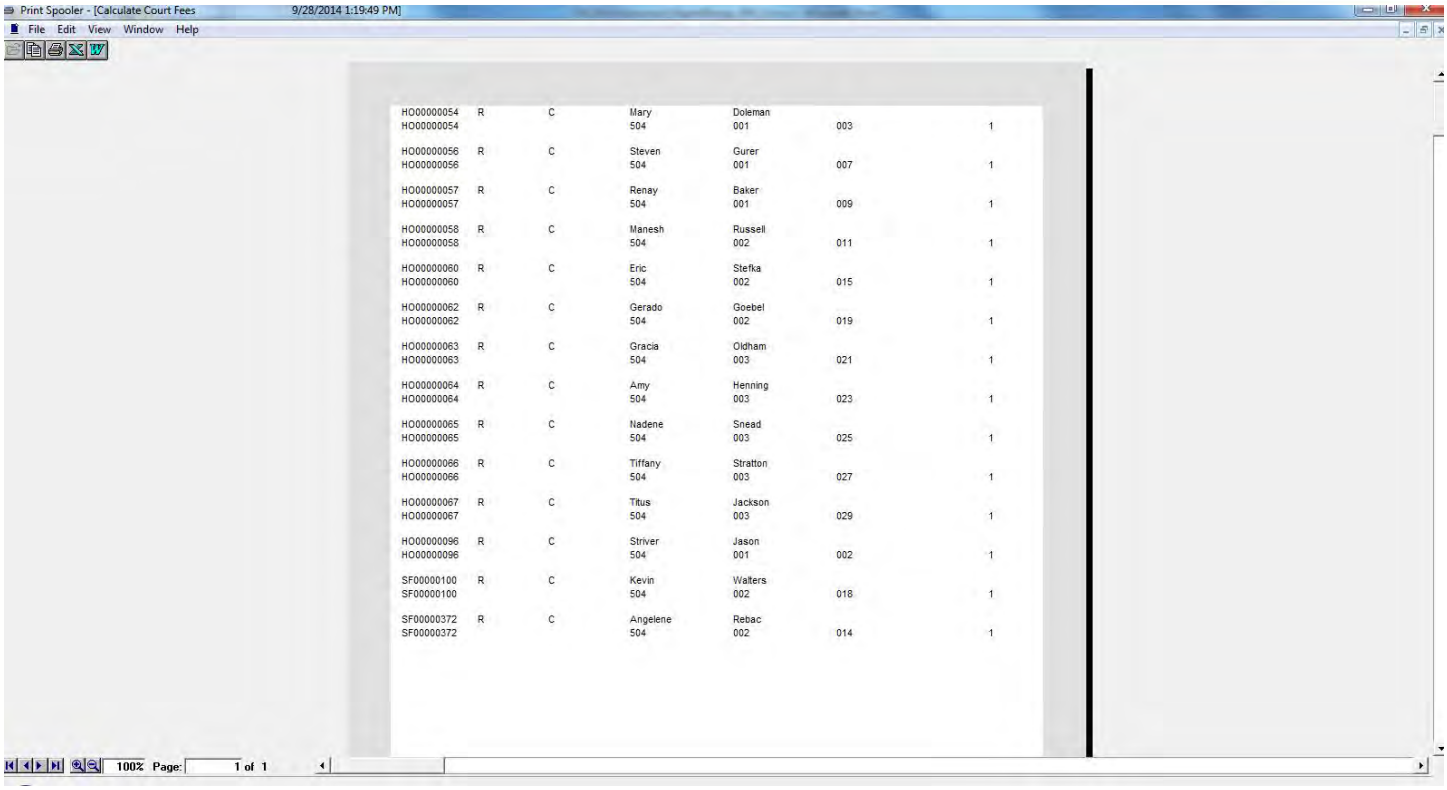


Run the report to make sure it runs and it's what you are expecting.

Advanced Report Design - RM



Advanced Report Design - RM

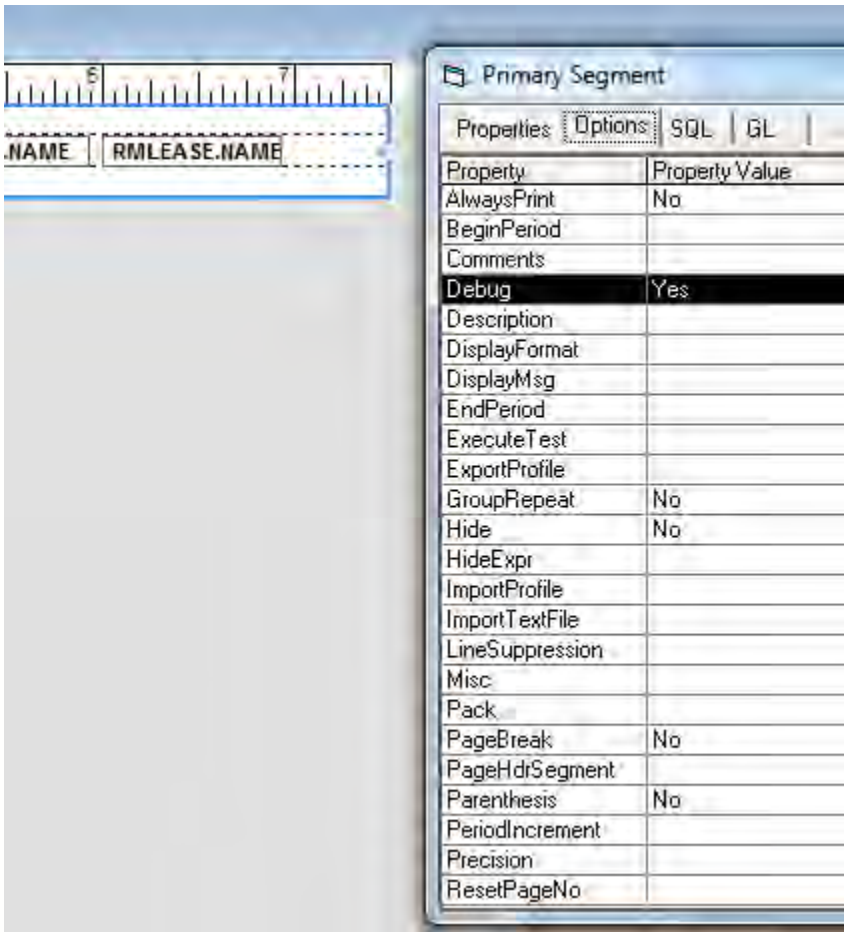


Advanced Report Design - RM

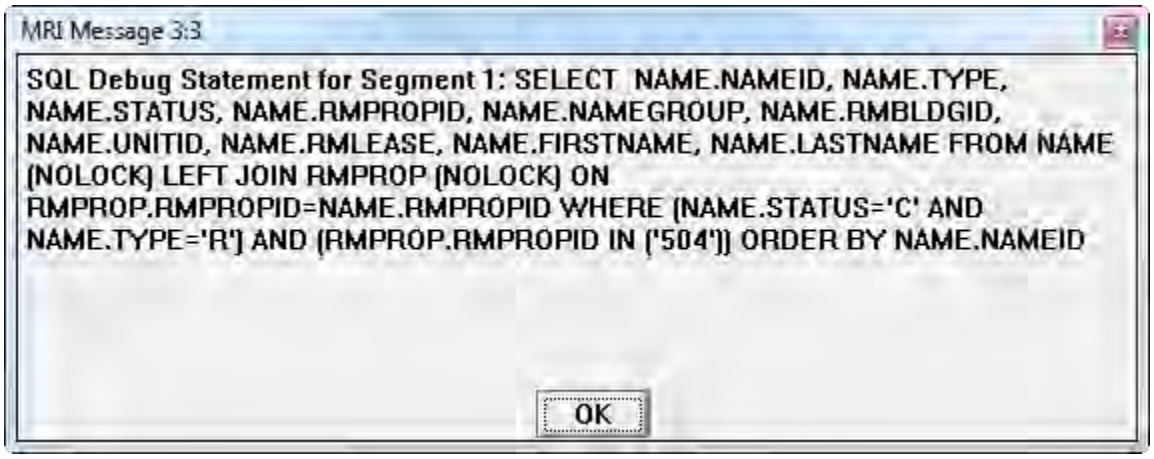
Report Design creates its own SQL statement that you can manipulate, add to, or delete.

To better understand how you created your report what data is being retrieved, you can set this feature on each segment. You have to go to the segment properties, select the Options tab, and turn DEBUG on.

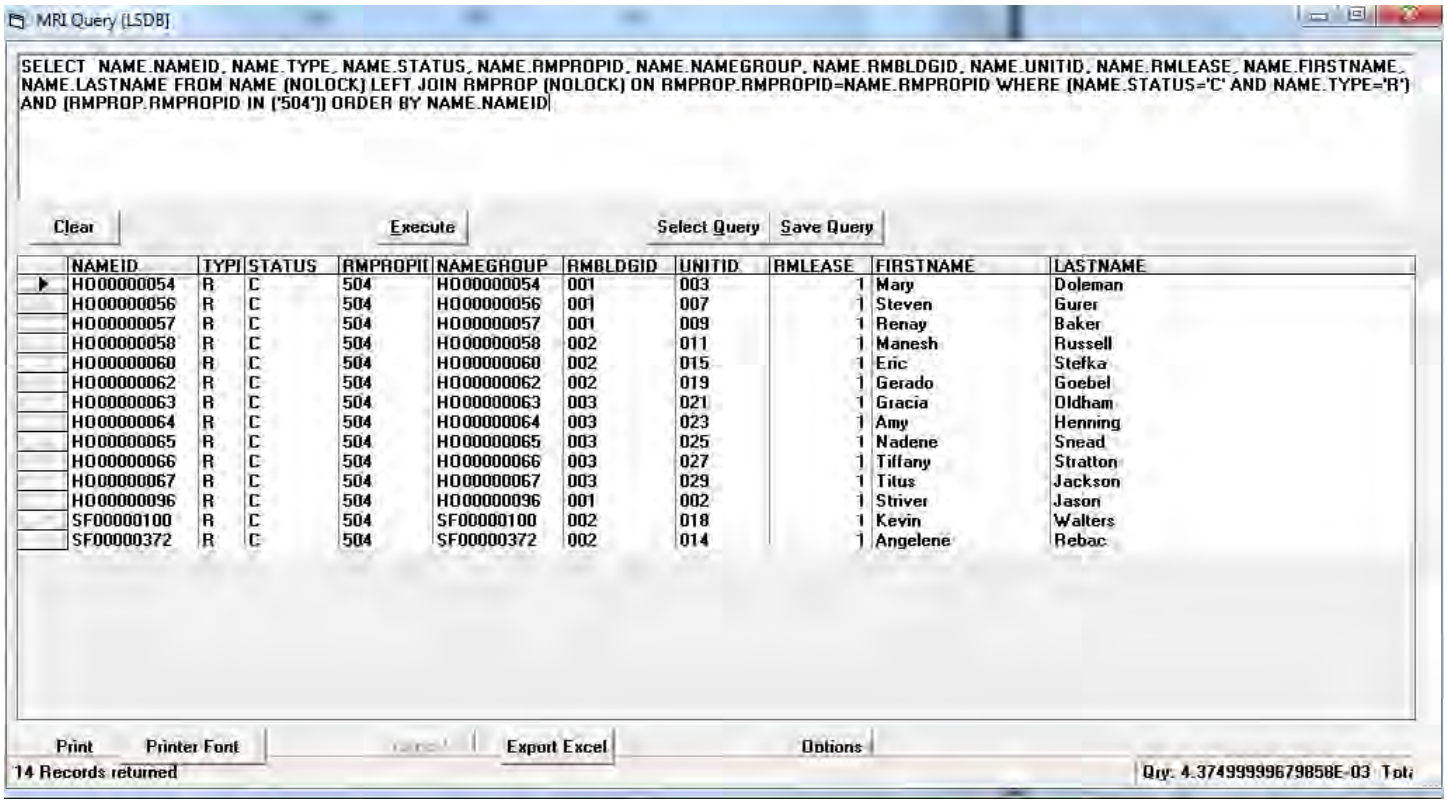
Upon running the report, you will see the SQL statement it creates.



Cut and paste this into MRIQRY to see the results:

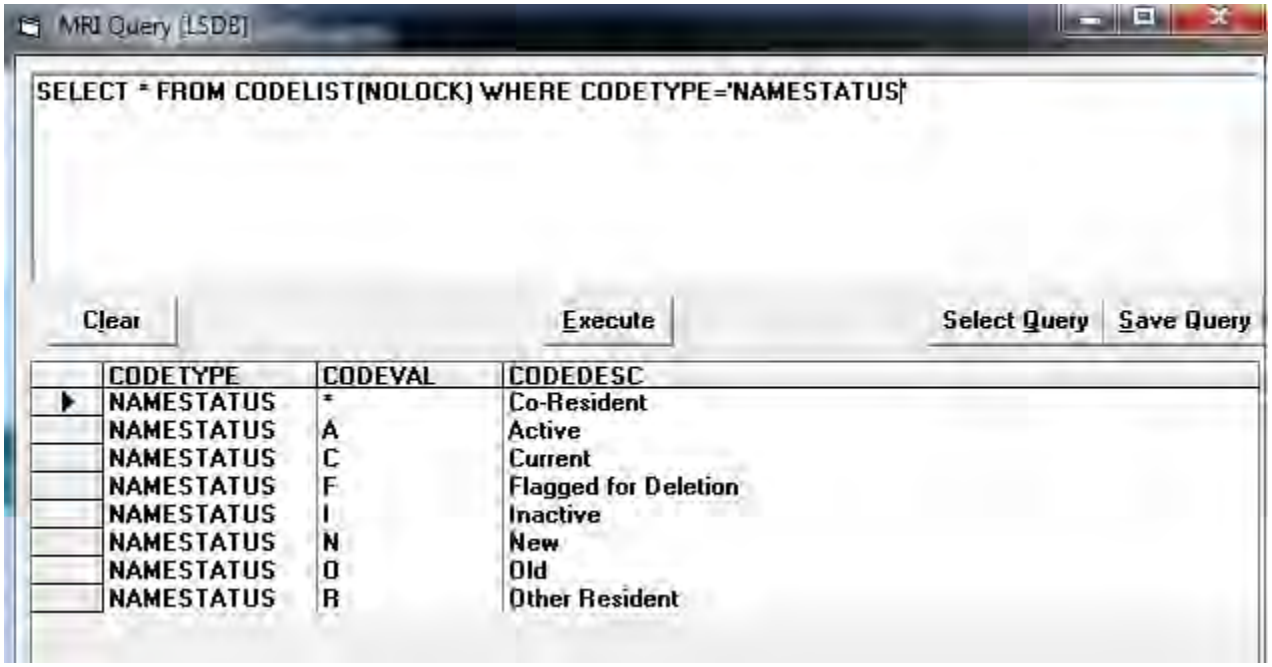


If there are no other conditions in the report, such as Skip or Hide Expressions, this should match the values that appear on the report.



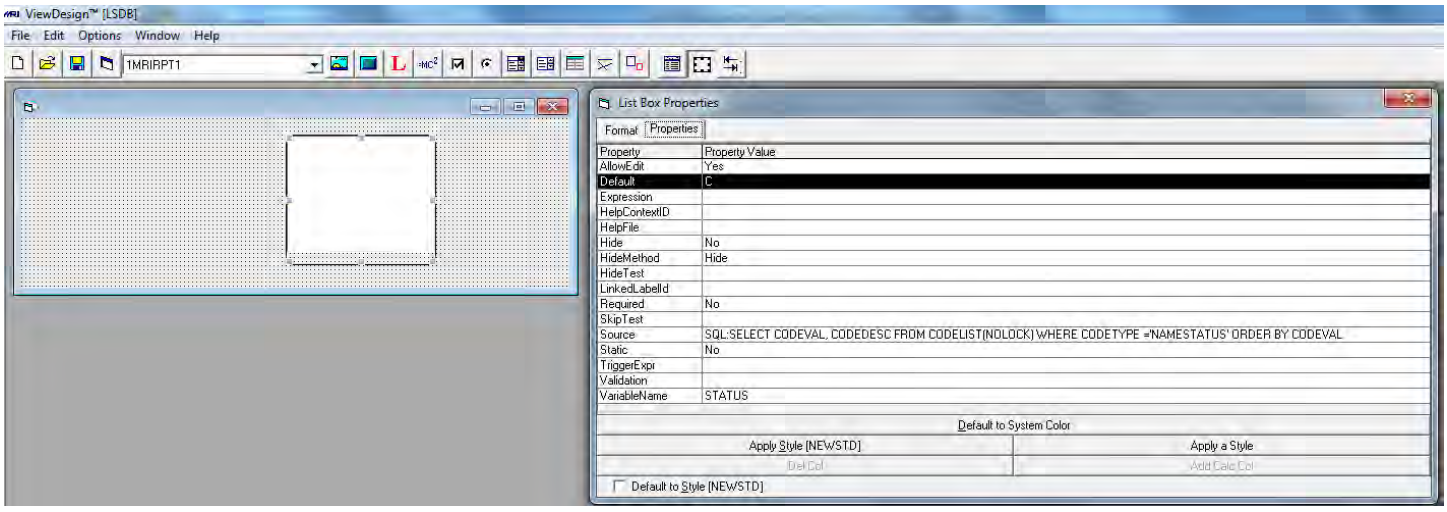
To make these dynamic conditions, we need to add runtime options to make the report more flexible.

Add a runtime option for the Name Status.



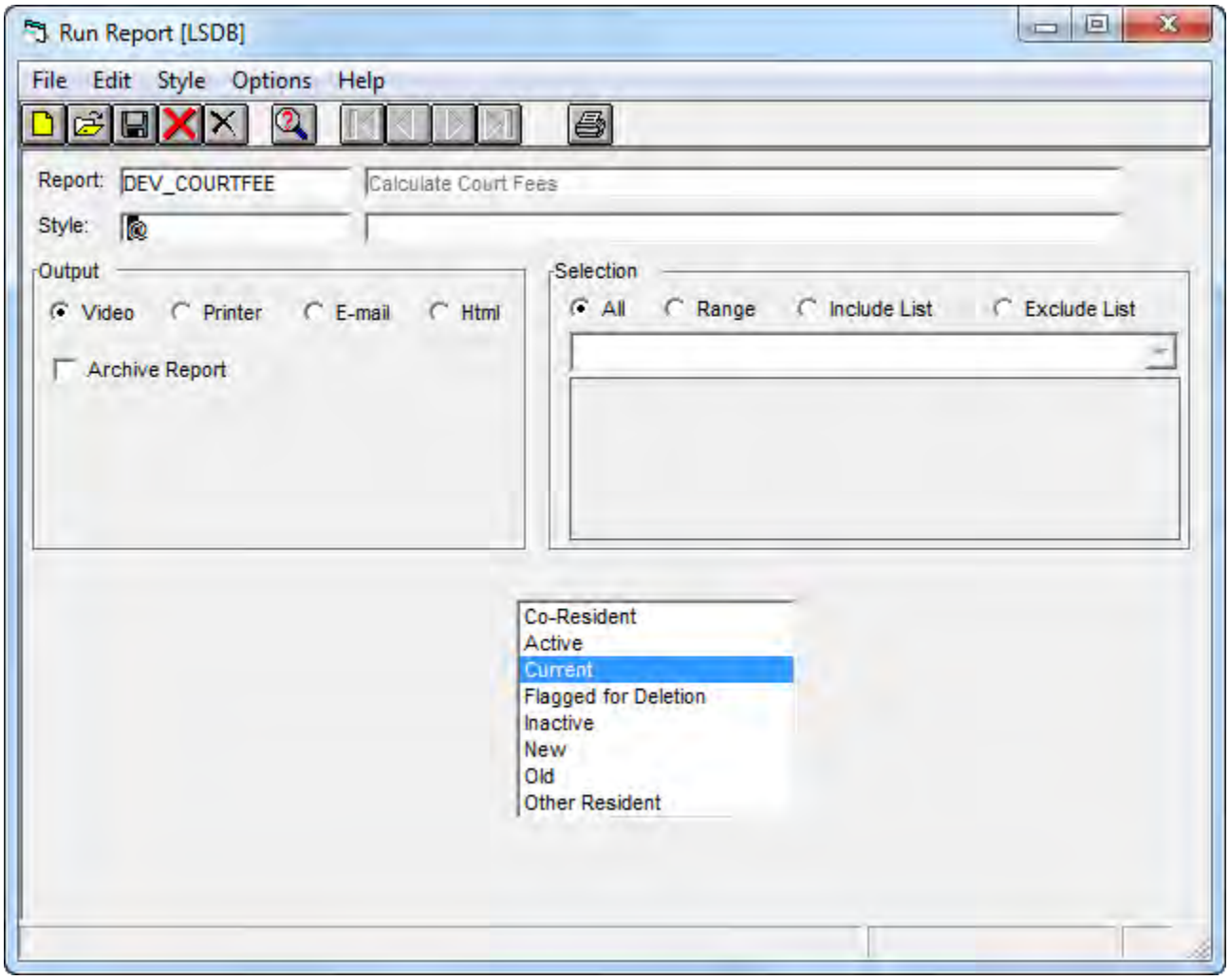
SELECT * FROM CODELIST(NOLOCK) WHERE CODETYPE='NAMESTATUS'

Tip: To determine where these values are derived, use Database Design or run the report MRI_TABLE.



SQL:SELECT CODEVAL, CODEDESC FROM CODELIST(NOLOCK) WHERE CODETYPE ='NAMESTATUS' ORDER BY CODEVAL

Attach the view to the report to confirm its gathering the correct information. Set the Default to “C” for Current Resident status. Now update the report to include a variable condition.



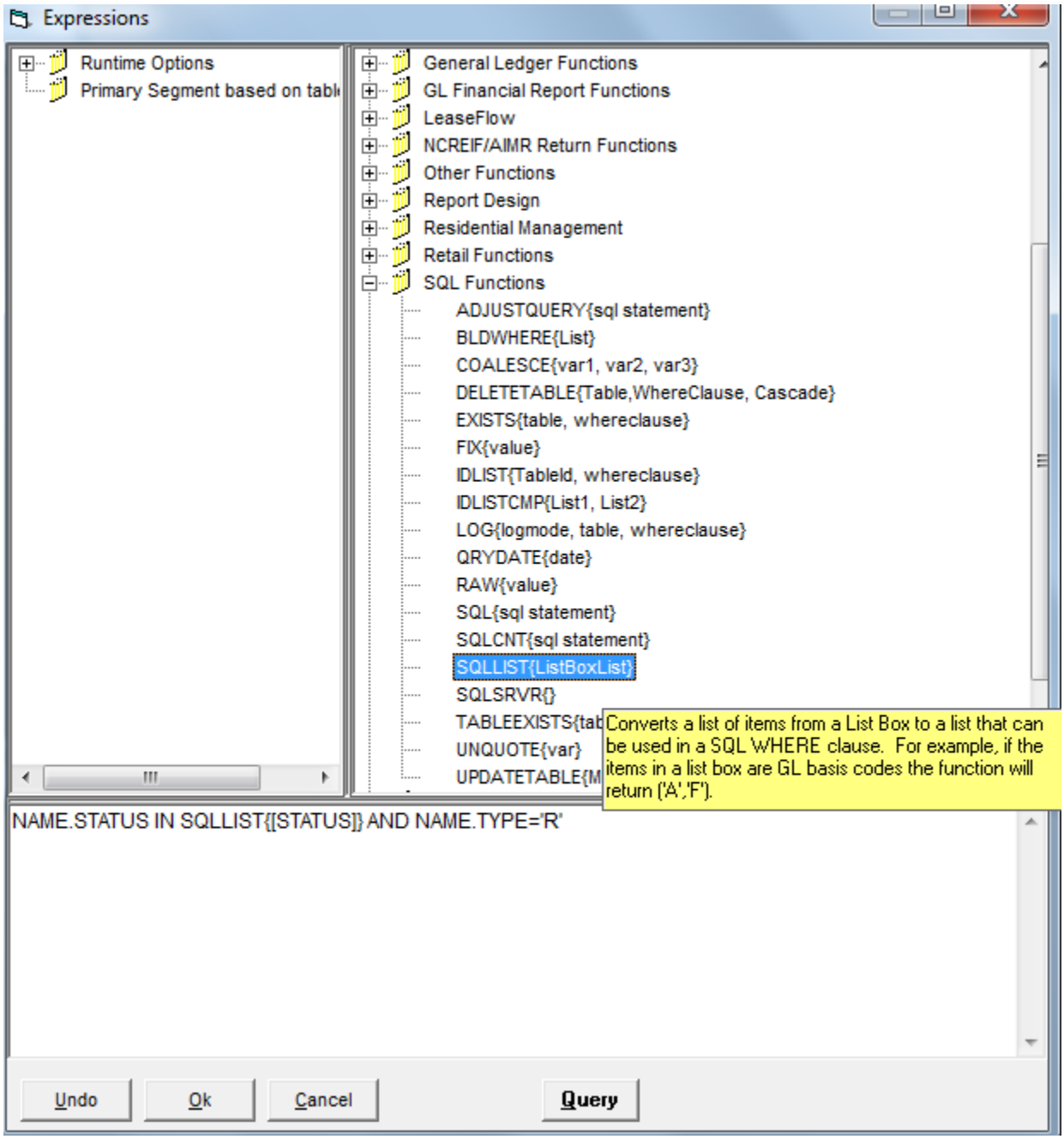
Using Variable Names

Variable Names enable you to identify object(s) when you want to filter information. The example below is using a Variable Name in a ‘Where’ clause.

To a add a Variable Name to a ‘Where’ Clause:

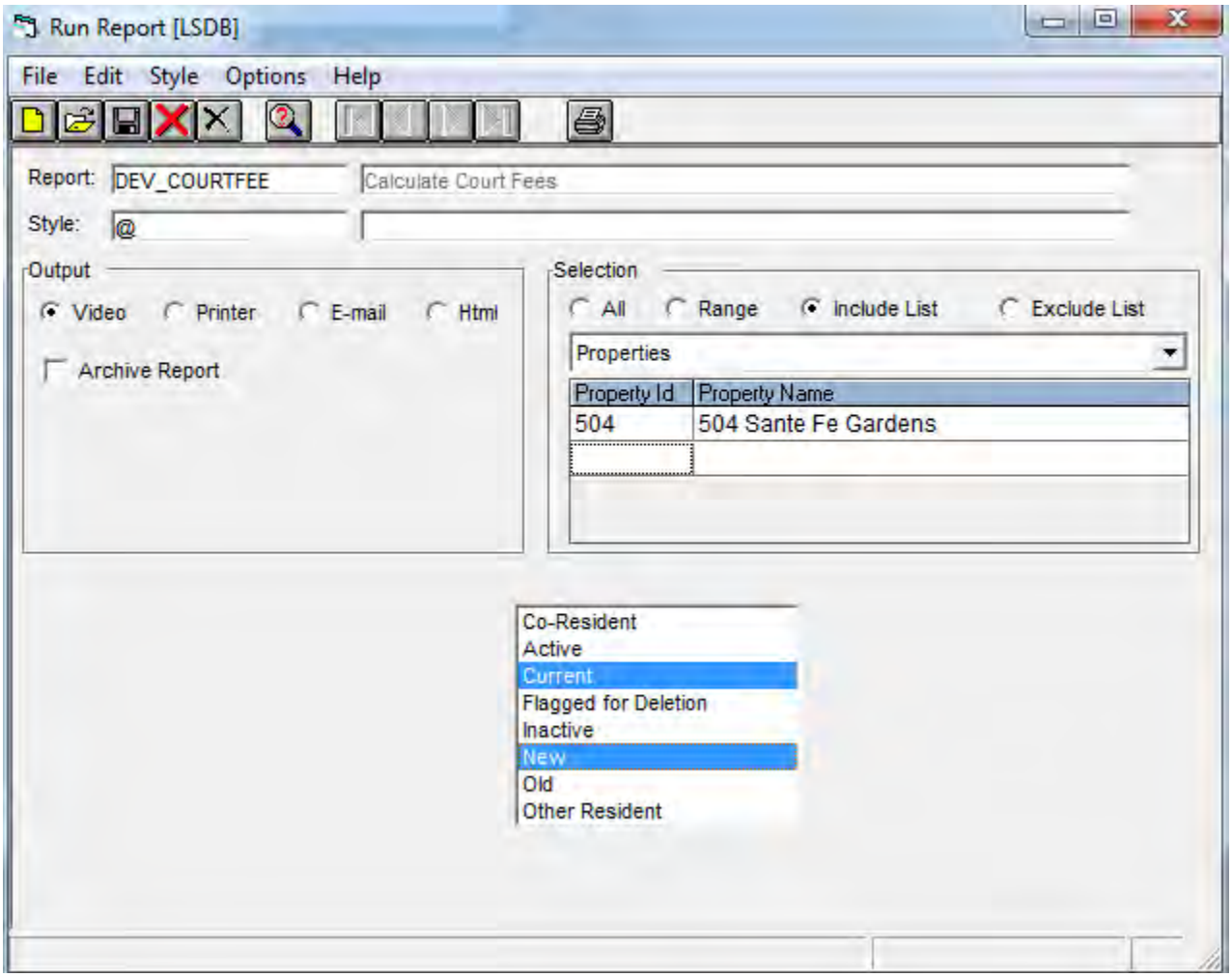
1. Open the Properties dialog box for the Primary Segment.
2. Click on the SQL tab.
3. Highlight the ‘Where’ property and double-click in the Property Value field to view the *Expressions* dialog box.
4. Type the ‘Where’ clause. Our expression will include the run-time Variable Name created in our sub-view for this report.

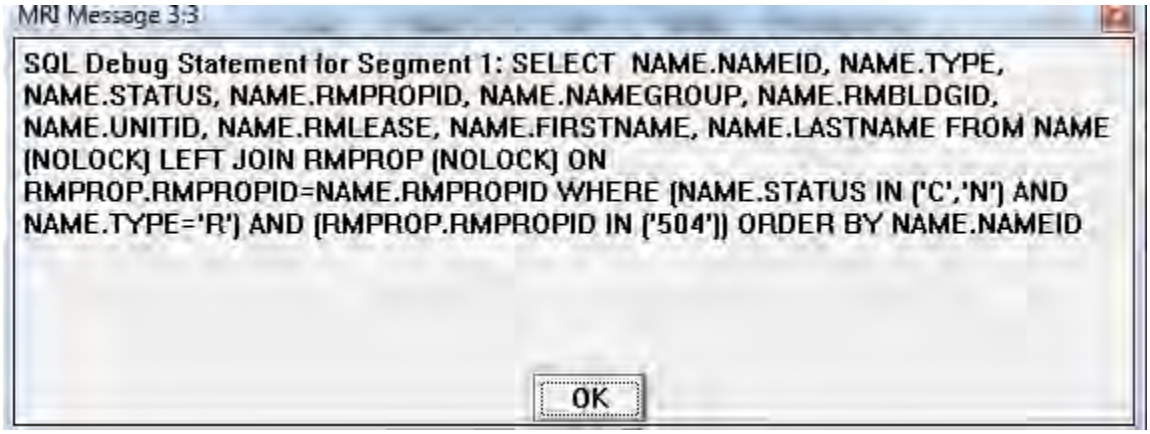
Advanced Report Design - RM



TIP: Null vs. Blank. 'Null' describes the raw data and 'Blank' describes the field value retrieved from a cell. If you reference the data, you want to look for a null value. If you reference a field on the report, you want to look for a blank value.

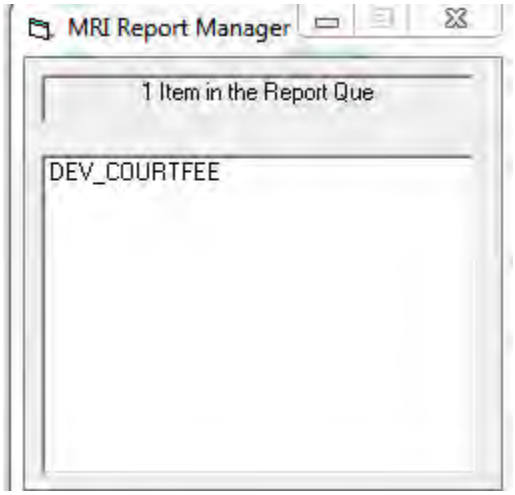
To confirm, turn on Debug and run the report and change the selection.





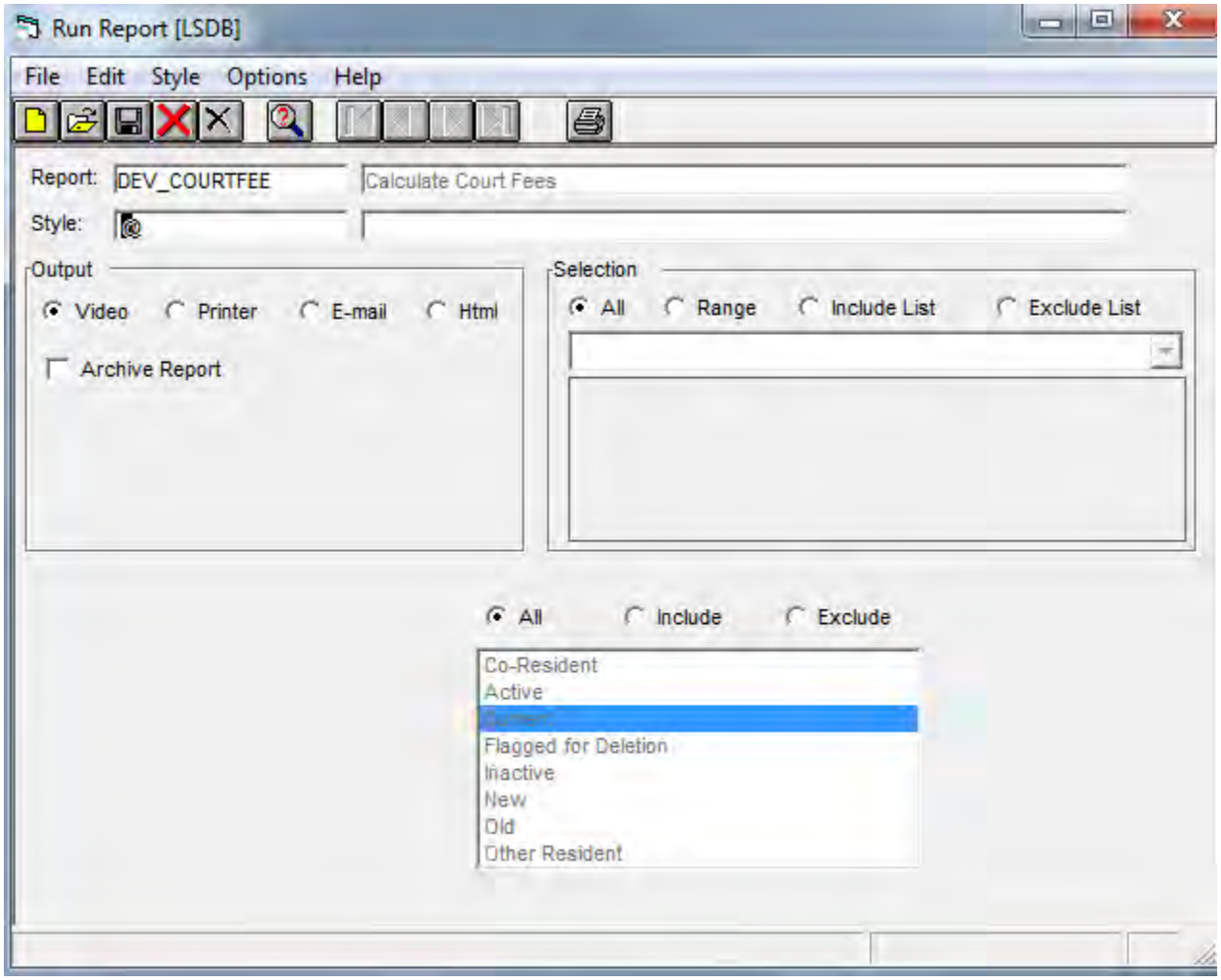
Tip:

If you receive this message, Adding to Queue and the MRI Report Manager, this means that there is a Debug statement that needs to be acknowledged. Find the Debug Message, click Ok, and the system will continue processing.

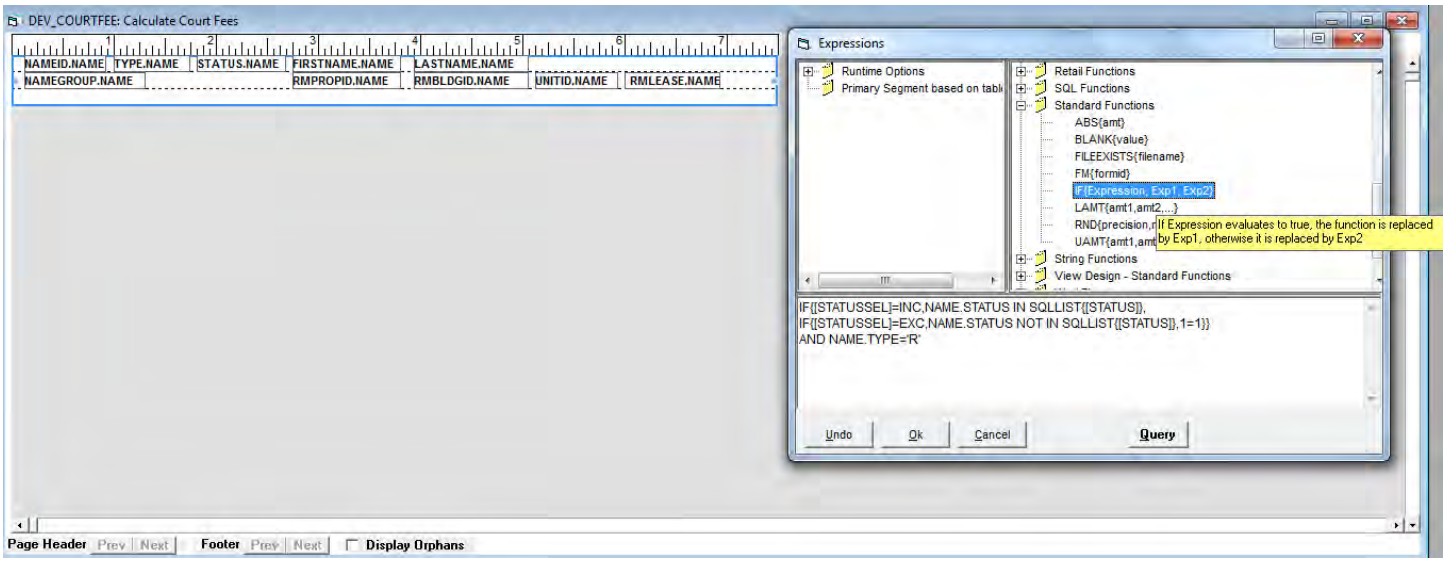


Now, we'll amp it up one more time to further refine the condition.

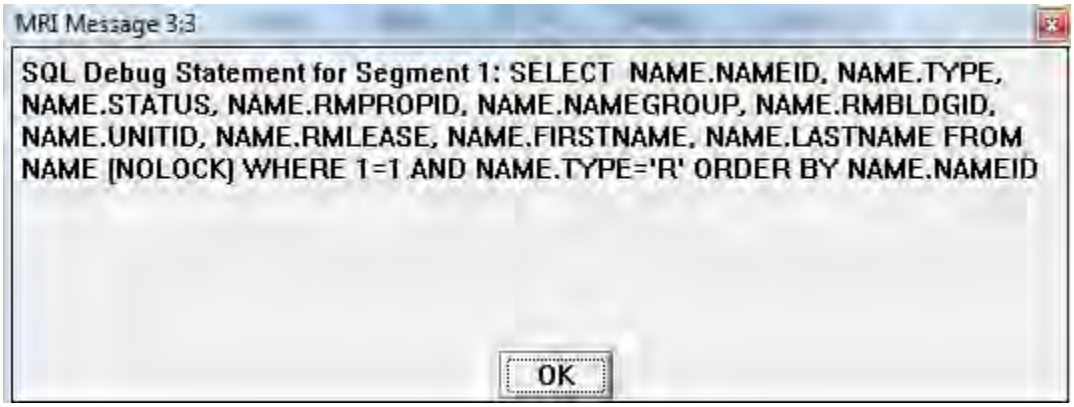
Add an All, Include, or Exclude component.

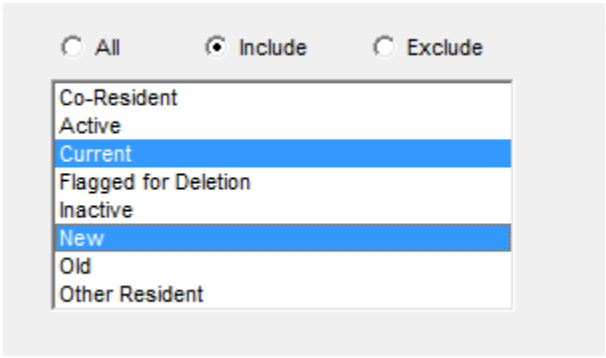


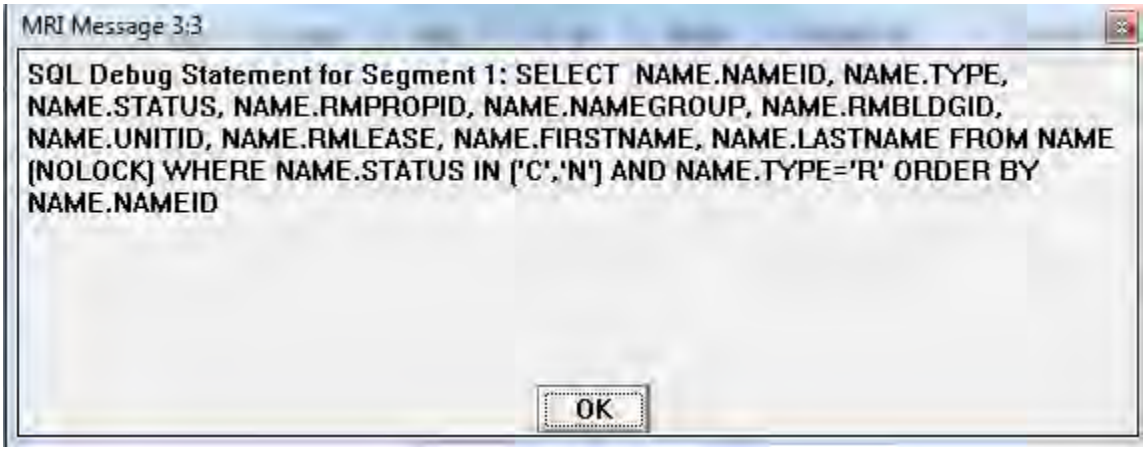
Update the Where in the report to include an “IF” statement:

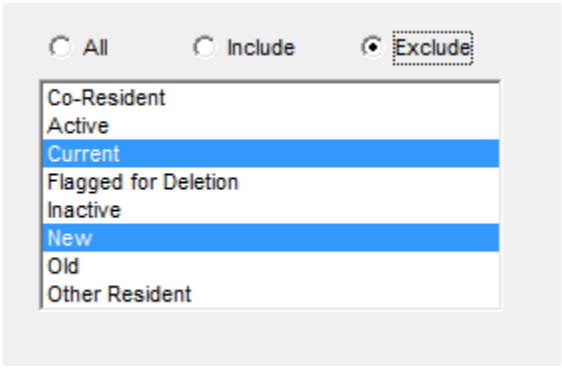


IF{[STATUSSEL]=INC,NAME.STATUS IN SQLLIST{[STATUS]},
IF{[STATUSSEL]=EXC,NAME.STATUS NOT IN SQLLIST{[STATUS]},1=1}}
AND NAME.TYPE='R'




All
Include
Exclude
Co-Resident
Active
Current
Flagged for Deletion
Inactive
New
Old
Other Resident

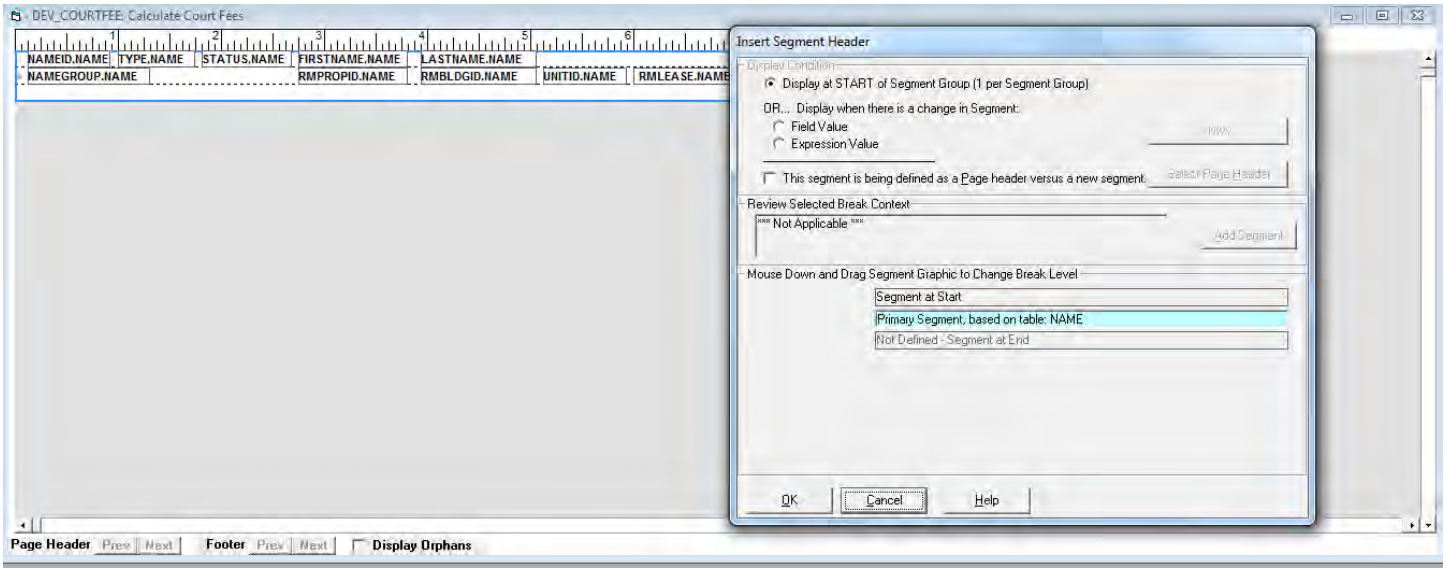

MRI Message 3:3
SQL Debug Statement for Segment 1: SELECT NAME.NAMEID, NAME.TYPE, NAME.STATUS, NAME.RMPROPID, NAME.NAMEGROUP, NAME.RMBLDGID, NAME.UNITID, NAME.RMLEASE, NAME.FIRSTNAME, NAME.LASTNAME FROM NAME (NOLOCK) WHERE NAME.STATUS IN ('C','N') AND NAME.TYPE='R' ORDER BY NAME.NAMEID
OK


All
Include
Exclude
Co-Resident
Active
Current
Flagged for Deletion
Inactive
New
Old
Other Resident

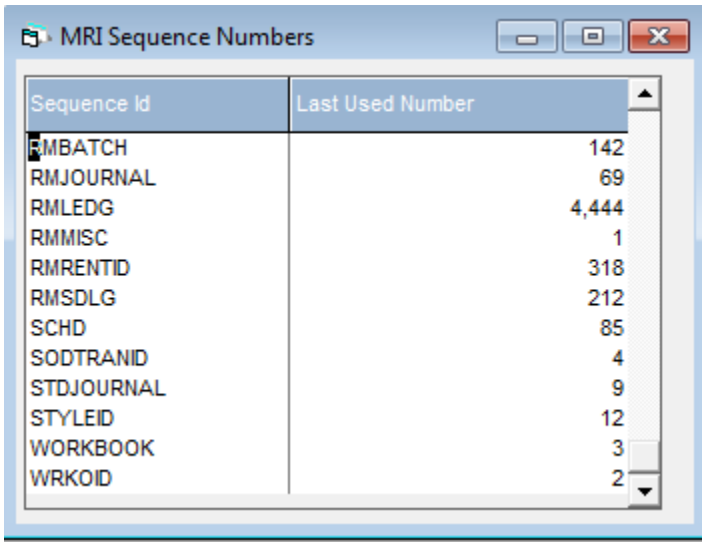
MRI Message 3:3
SQL Debug Statement for Segment 1: SELECT NAME.NAMEID, NAME.TYPE, NAME.STATUS, NAME.RMPROPID, NAME.NAMEGROUP, NAME.RMBLDGID, NAME.UNITID, NAME.RMLEASE, NAME.FIRSTNAME, NAME.LASTNAME FROM NAME (NOLOCK) WHERE NAME.STATUS NOT IN ('C','N') AND NAME.TYPE='R' ORDER BY NAME.NAMEID
OK

Now, create a Segment Header that will display just once for the report.

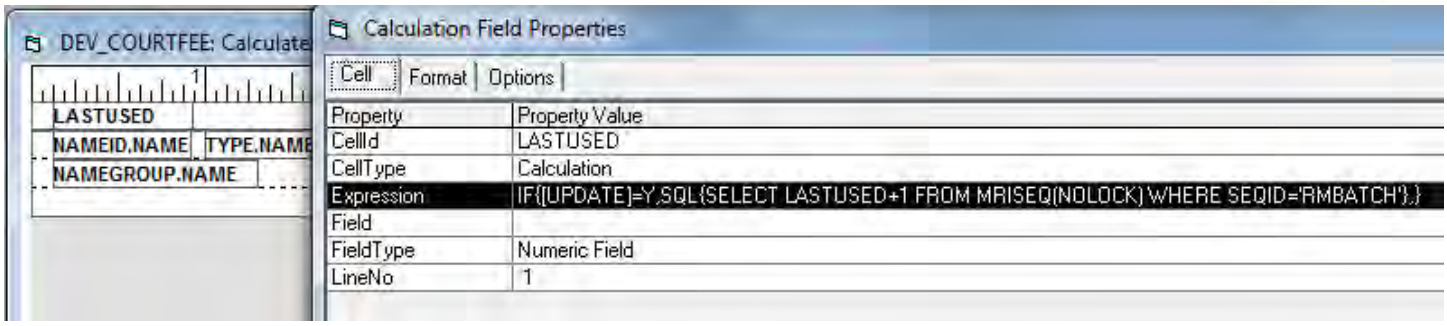
The reason for only on Segment Header is that this is where our logic for creating the new batch record will reside.



Create a cell that will retrieve and add “1” to the last number used for the RM Batch Id, which is stored in the MRISEQ, MRI Sequence Numbers Table.

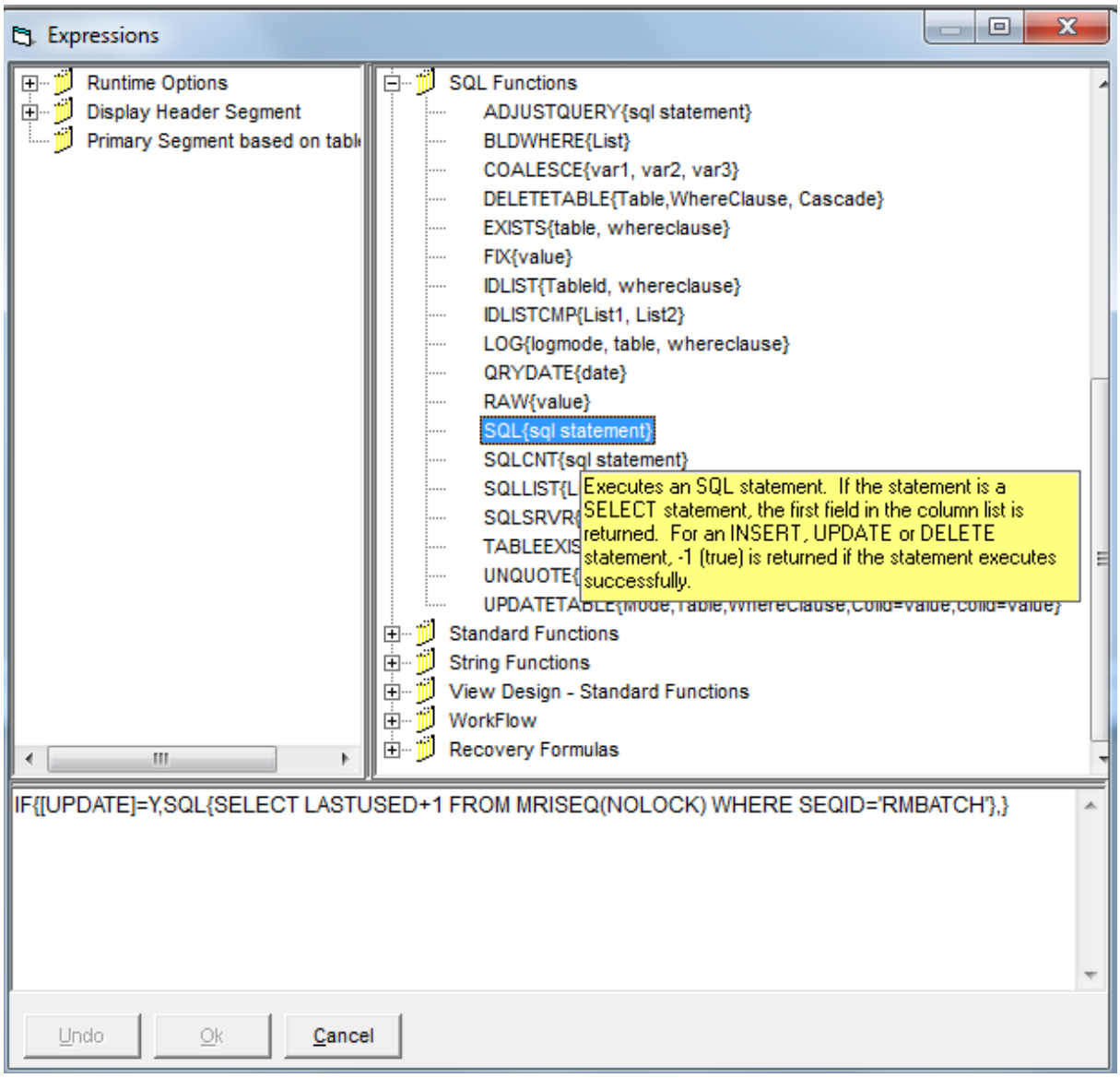


Sequence Id	Last Used Number
RMBATCH	142
RMJOURNAL	69
RMLEDG	4,444
RMMISC	1
RMRENTID	318
RMSDLG	212
SCHD	85
SODTRANID	4
STDJOURNAL	9
STYLEID	12
WORKBOOK	3
WRKOID	2

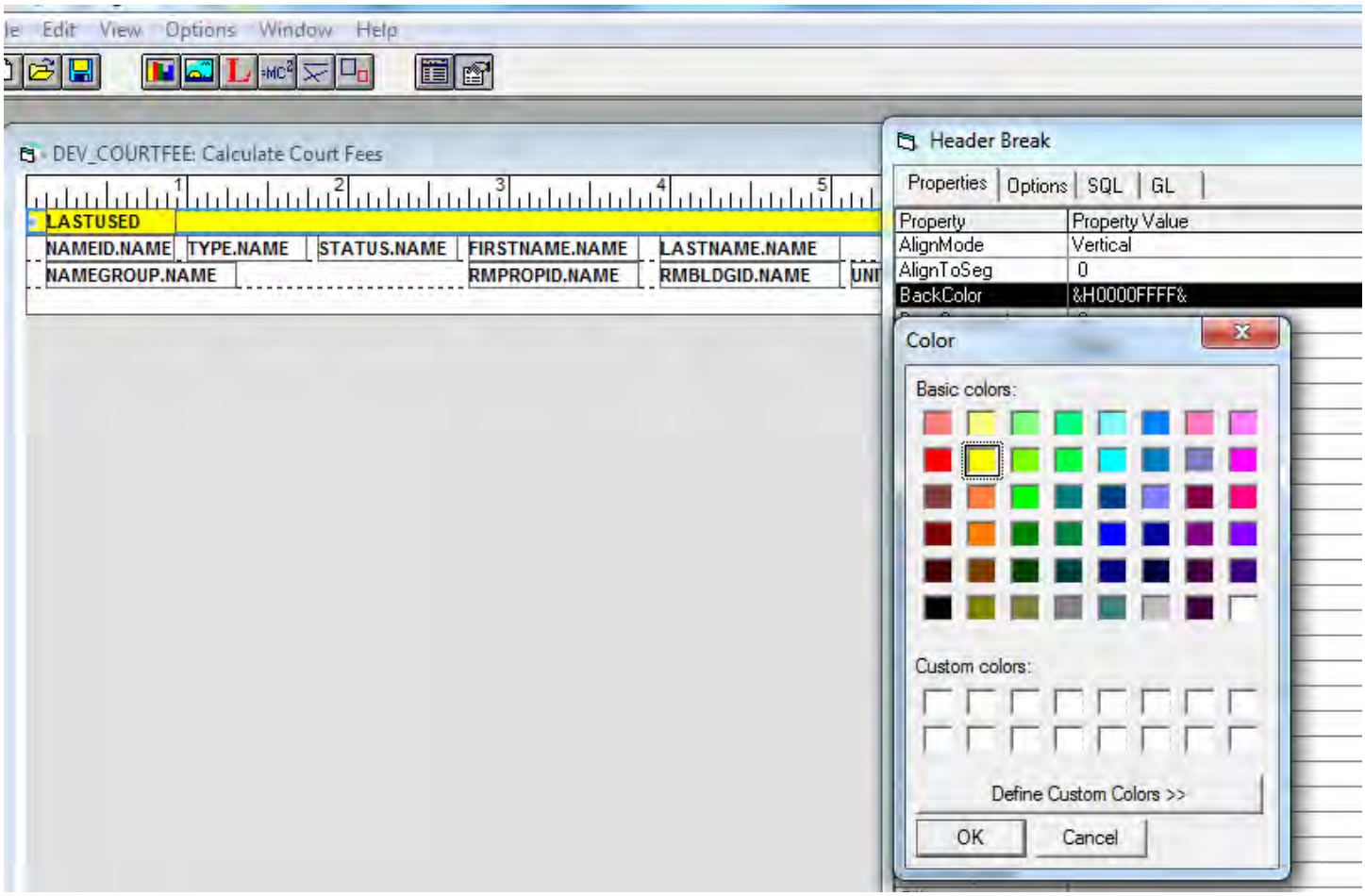


IF{[UPDATE]=Y,SQL{SELECT LASTUSED+1 FROM MRISEQ(NOLOCK) WHERE SEQID='RMBATCH'},}

With this calculation, add a runtime option for Update.

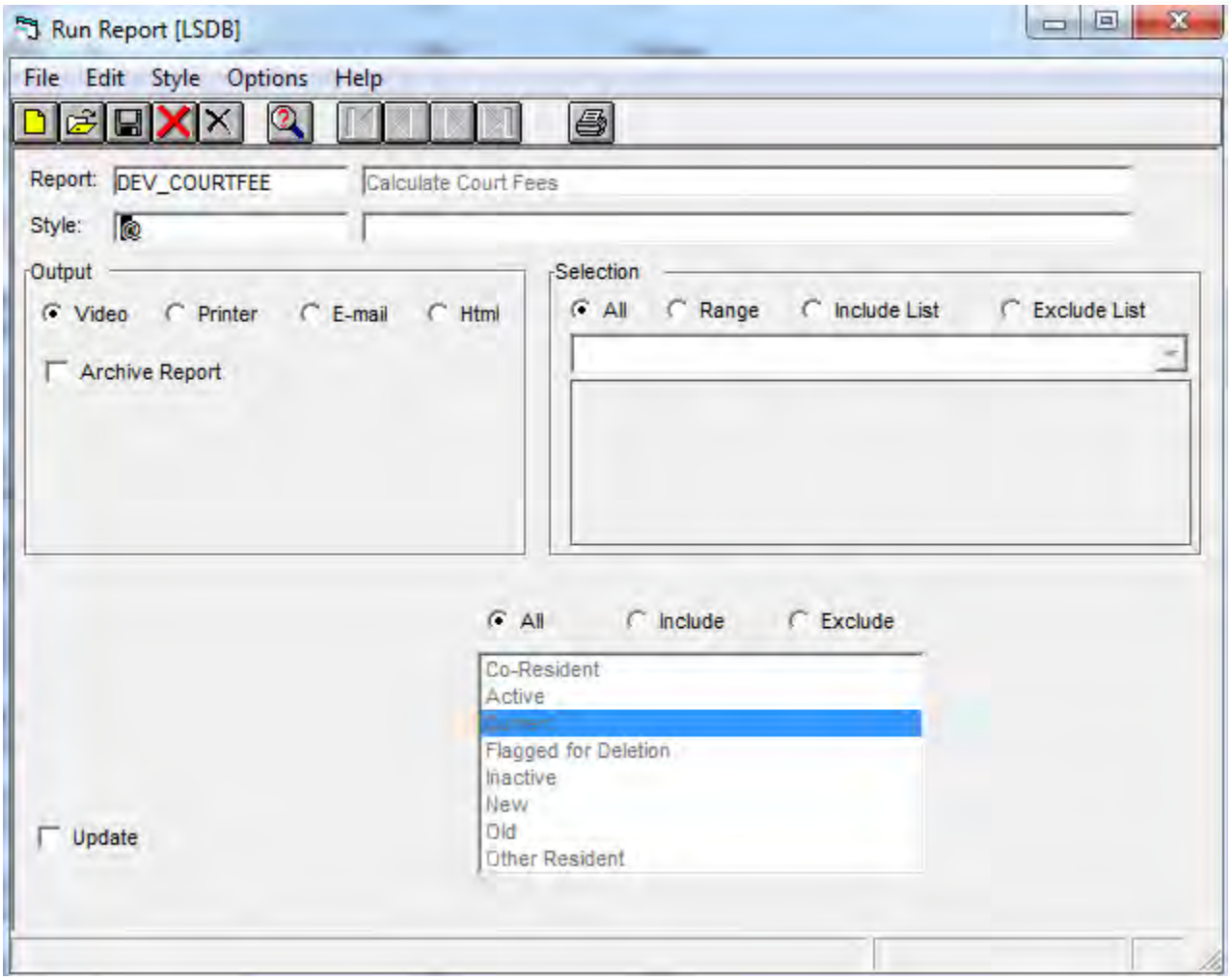


Advanced Report Design - RM

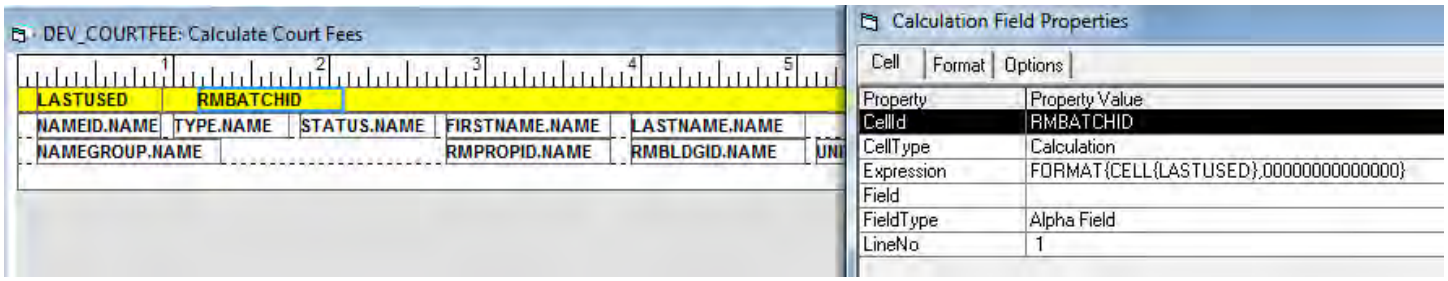


Tip: Also when developing reports, highlight certain segments or cells so they're easier to find.

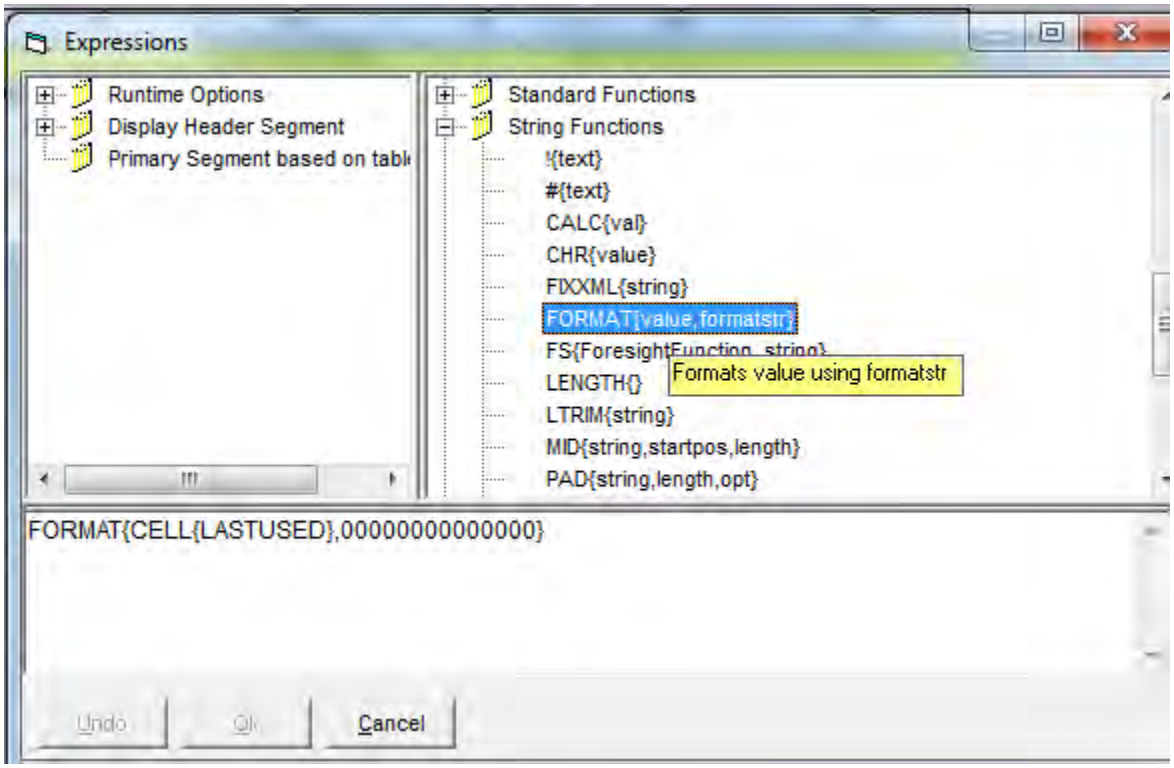
Advanced Report Design - RM



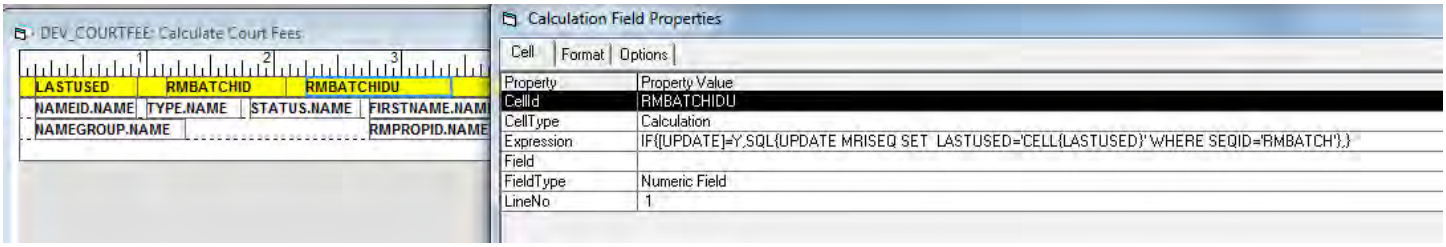
0						
0000000001	R	O	Phillip	Purcell		
0000000001			500	01	101	1
0000000002	R	O	John	Thomas		
0000000002			500	01	102	1
0000000003	R	O	Brent	Favre		
0000000003			500	01	103	1
0000000004	R	O	Marsha	Smith		
0000000004			500	01	103	2
0000000005	R	C	Jeff	Jenkins		
0000000005			500	01	106	1
0000000006	R	*	Coretta	Jenkins		
0000000005			500	01	106	1
0000000007	R	O	Holly	Dunn		
0000000007			500	01	107	1
0000000008	R	C	Michael	Scott		
0000000008			500	01	109	1
0000000009	R	C	Kris	Kringle		
0000000009			500	01	110	1
0000000010	R	*	Martha	Clause		
0000000009			500	01	110	1
0000000011	R	C	Javier	Nunez		
0000000011			500	02	201	1



Next, format the RM Batch Id.

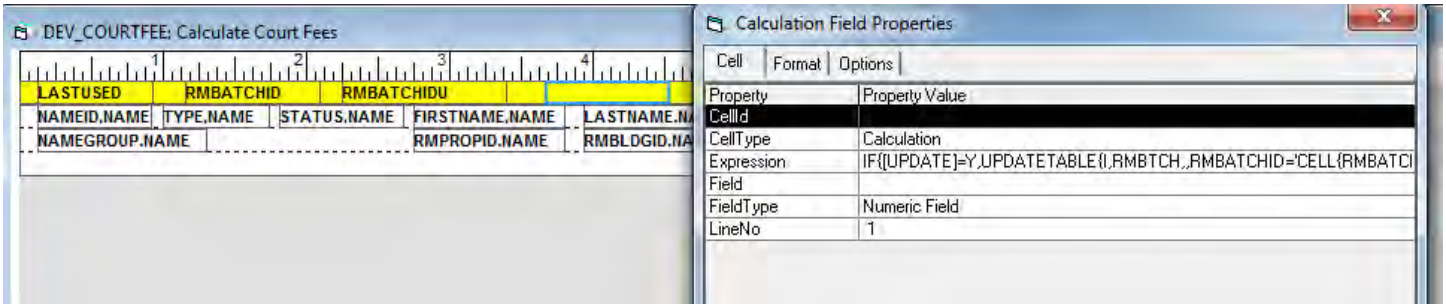


Now that you have the next RM Batch Id, the table needs to be updated.



IF{[UPDATE]=Y,SQL{UPDATE MRISEQ SET LASTUSED='CELL{LASTUSED}' WHERE SEQID='RMBATCH'},}

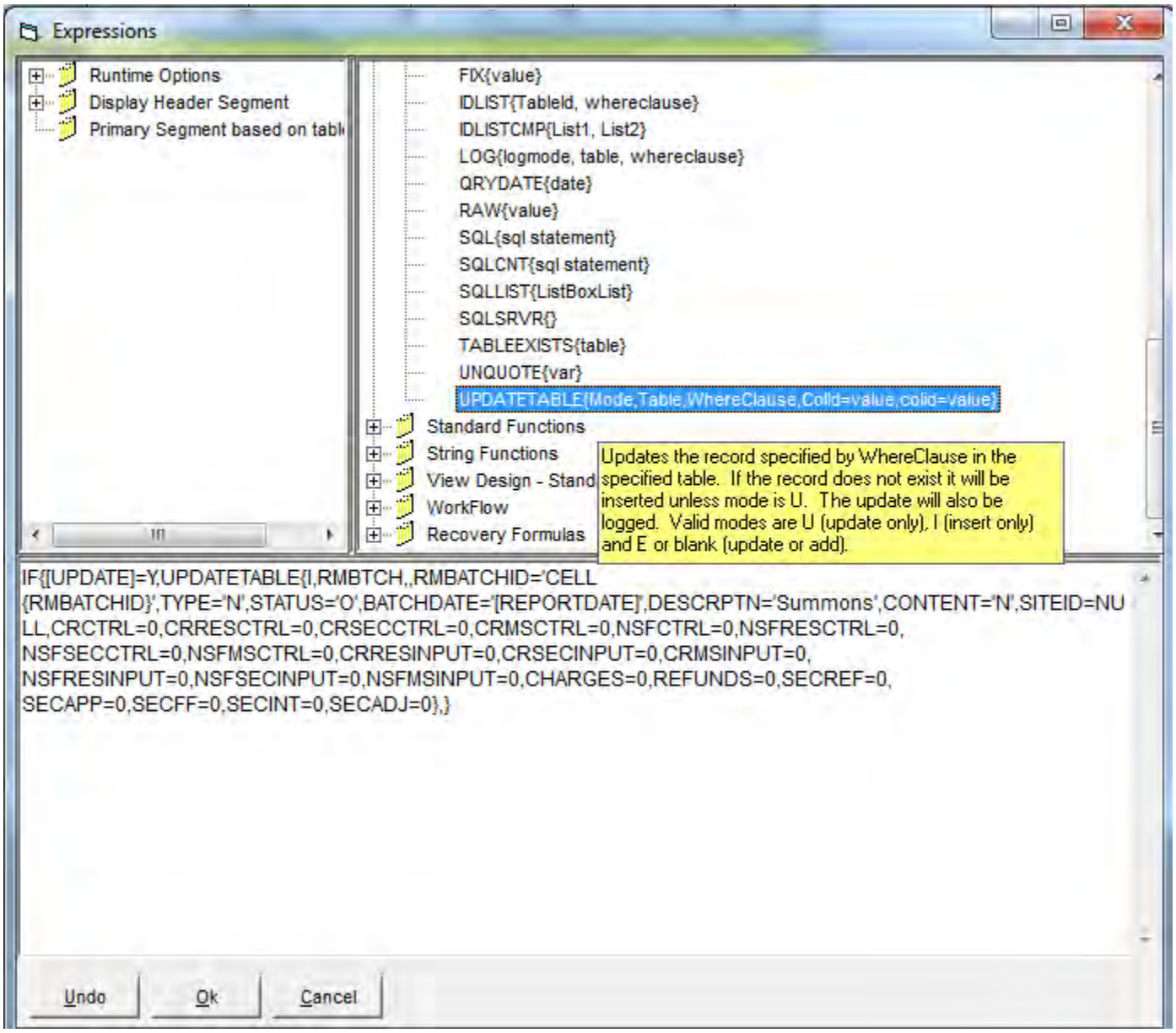
The last cell we'll create in the Segment Header is a calculation that will update the RM Batch with information gathered so far.



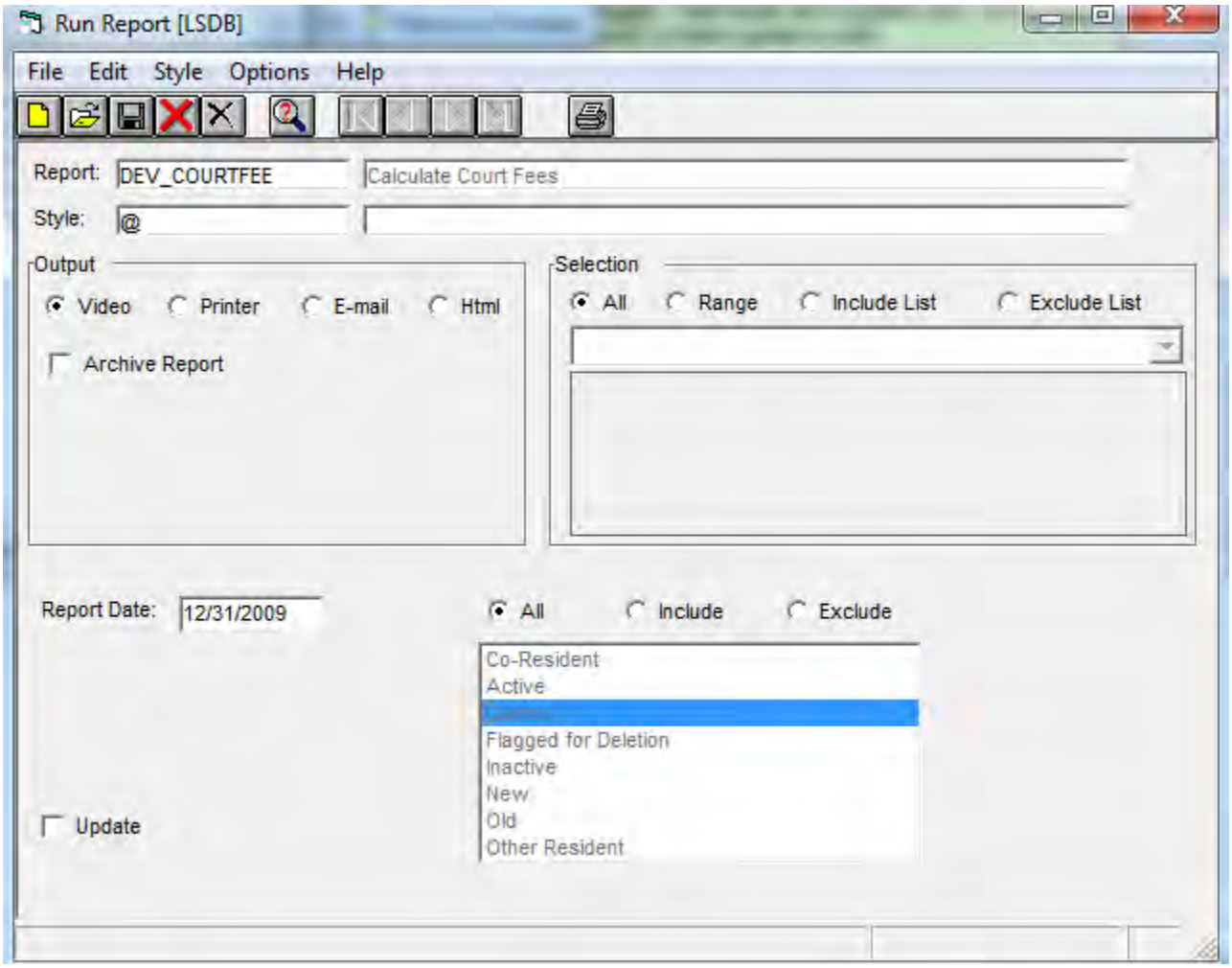
IF{[UPDATE]=Y,UPDATETABLE{I,RMBTCH,,RMBATCHID='CELL{RMBATCHID}',TYPE='N',STATUS='O',BATCHDATE='[REPORT DATE]',DESCRPTN='Summons',CONTENT='N',SITEID=NULL,CRCTRL=0,CRRESCTRL=0,CRSECCTRL=0,CRMSCTRL=0,NSFCTRL=0,NSFRESCTRL=0,
NSFSECCTRL=0,NSFMSCTRL=0,CRRESINPUT=0,CRSECINPUT=0,CRMSINPUT=0,
NSFRESINPUT=0,NSFSECINPUT=0,NSFMSINPUT=0,CHARGES=0,REFUNDS=0,SECREF=0,
SECAPP=0,SECFF=0,SECINT=0,SECADJ=0},}

Based on the values that used, create another variable for the "Report Date".

Advanced Report Design - RM



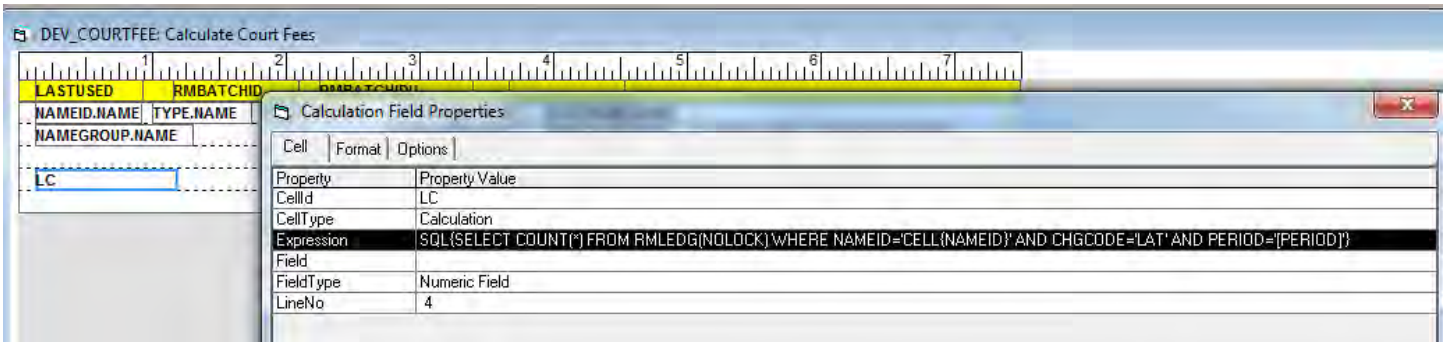
Advanced Report Design - RM



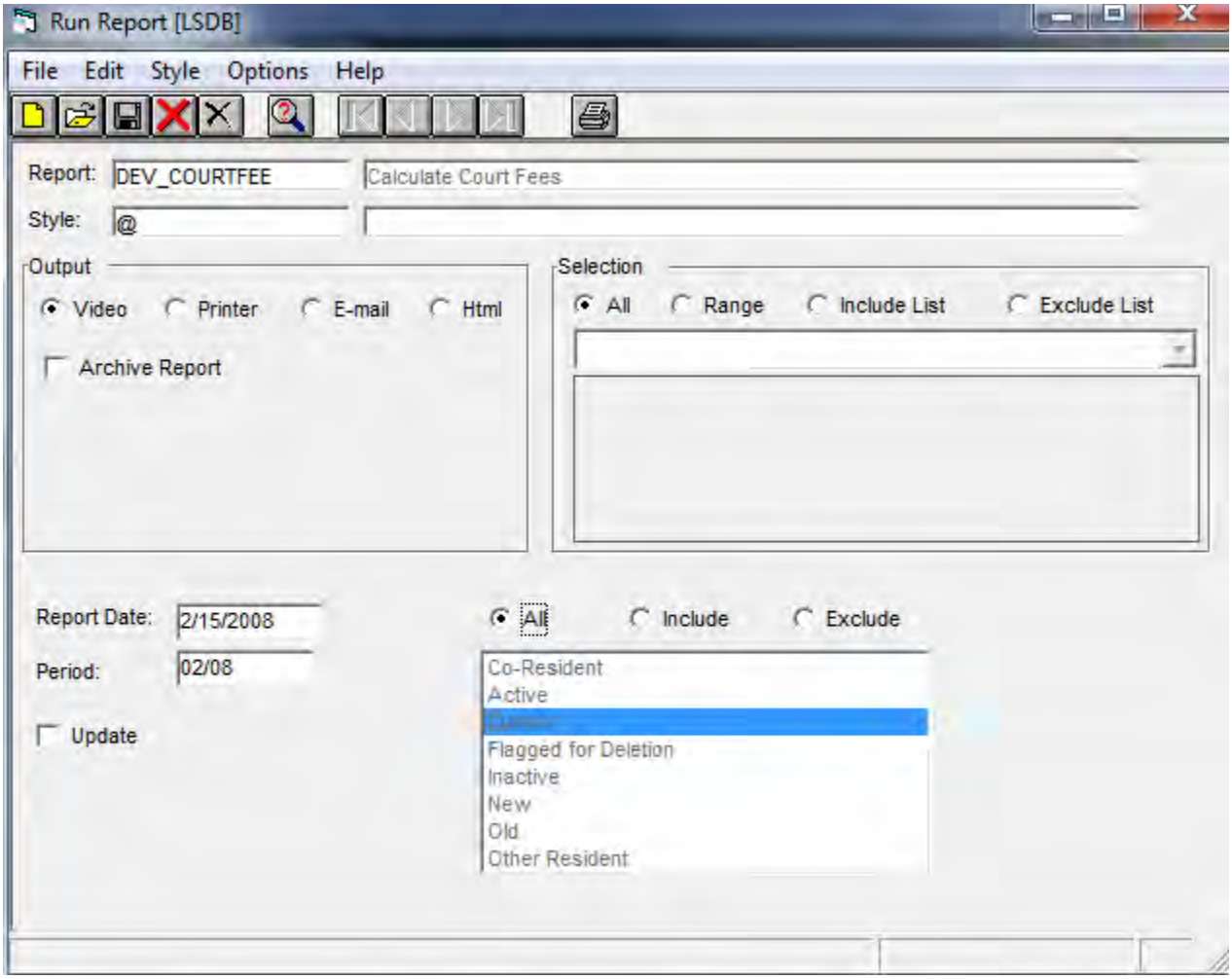
Advanced Report Design - RM

Create a calculation that will count the number of transactions in the Resident Ledger Table (RMLEDG) where the Charge Code “LAT” is used for the period we designate at runtime.

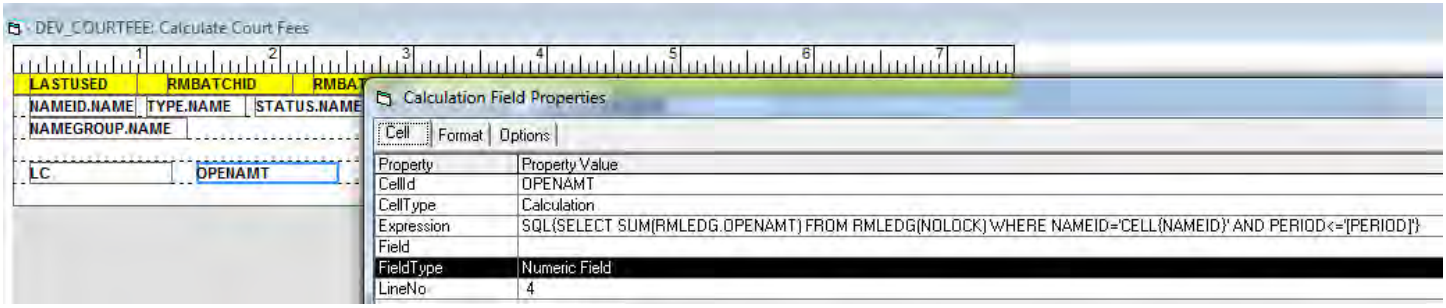
Add another variable on the runtime for “Period”. Create a lookup on Charge Code instead of hard coding the value.



SQL{SELECT COUNT(*) FROM RMLEDG(NOLOCK) WHERE NAMEID='CELL{NAMEID}' AND CHGCODE='LAT' AND PERIOD='[PERIOD]'}



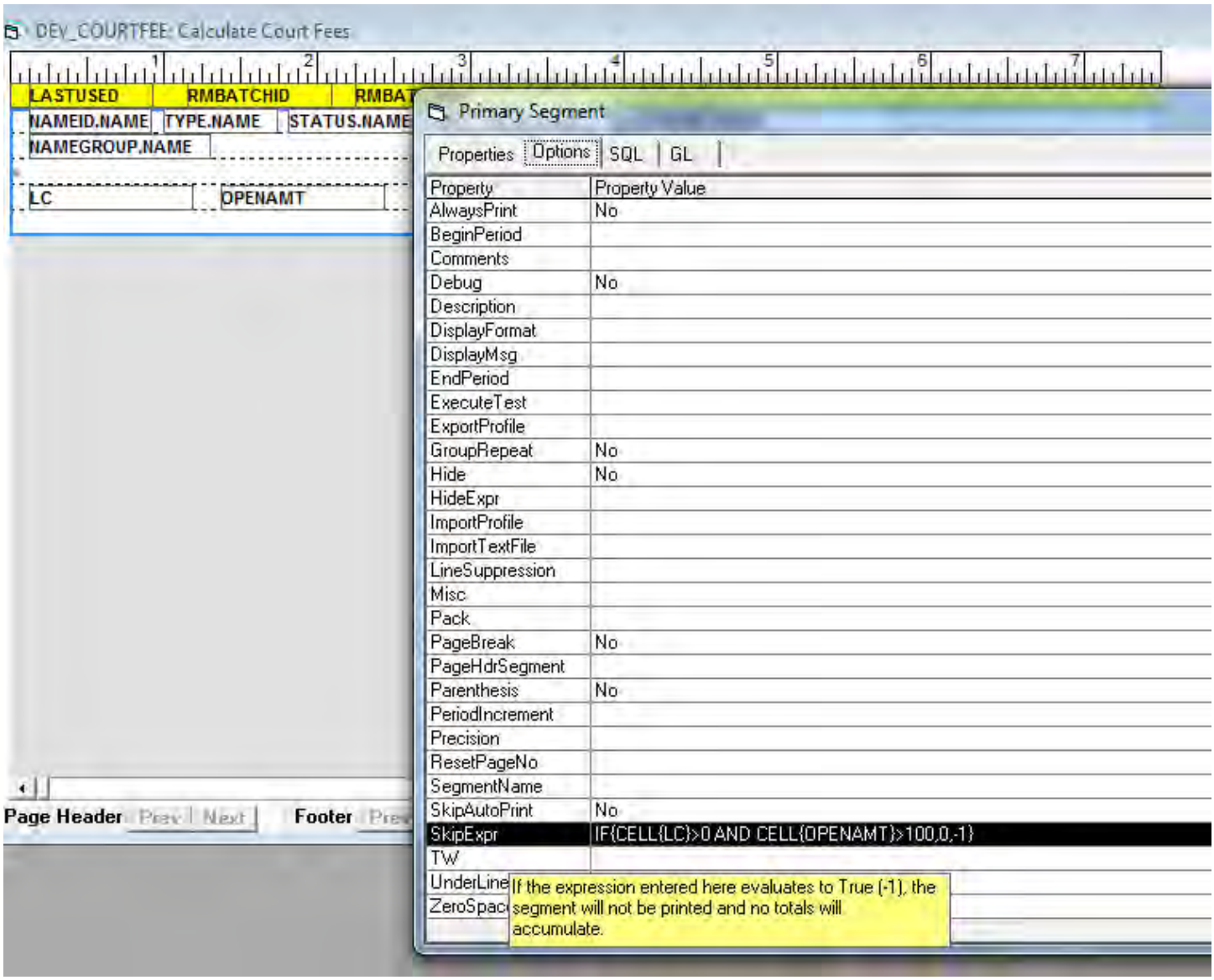
Create a calculation that will sum the Open Amount for that Resident based on the period specified at runtime.



SQL{SELECT SUM(RMLEDG.OPENAMT) FROM RMLEDG(NOLOCK) WHERE NAMEID='CELL{NAMEID}' AND PERIOD<='[PERIOD]'}

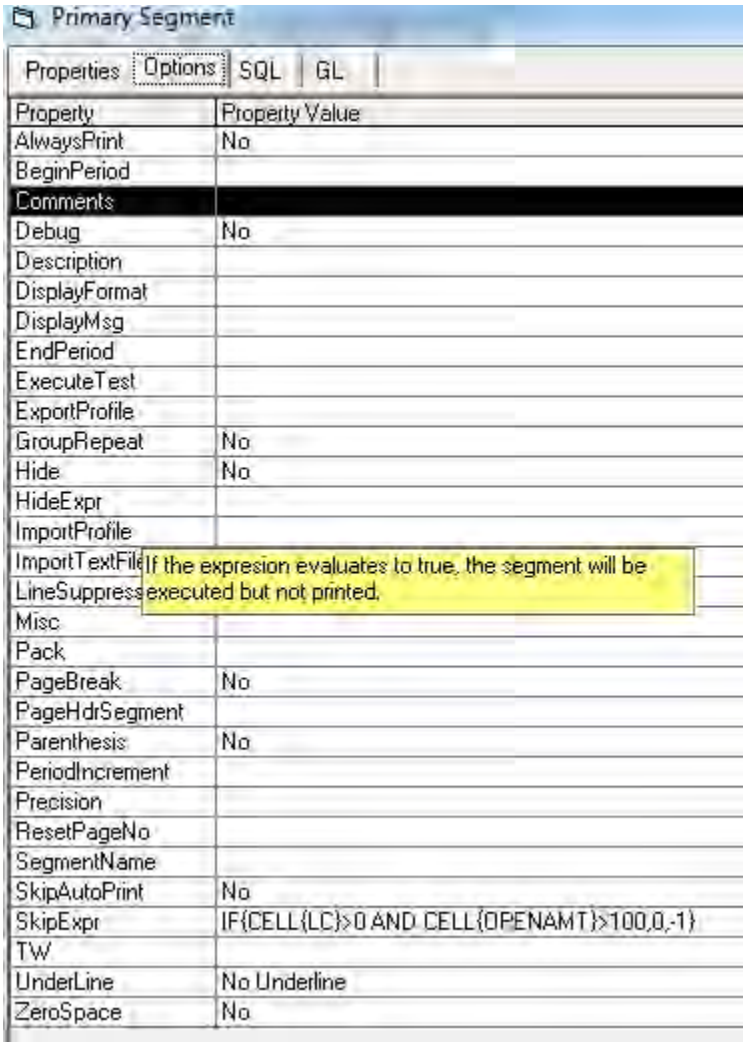
These two calculations will be used in a SkipExpr to further refine the records we want to include on the report.

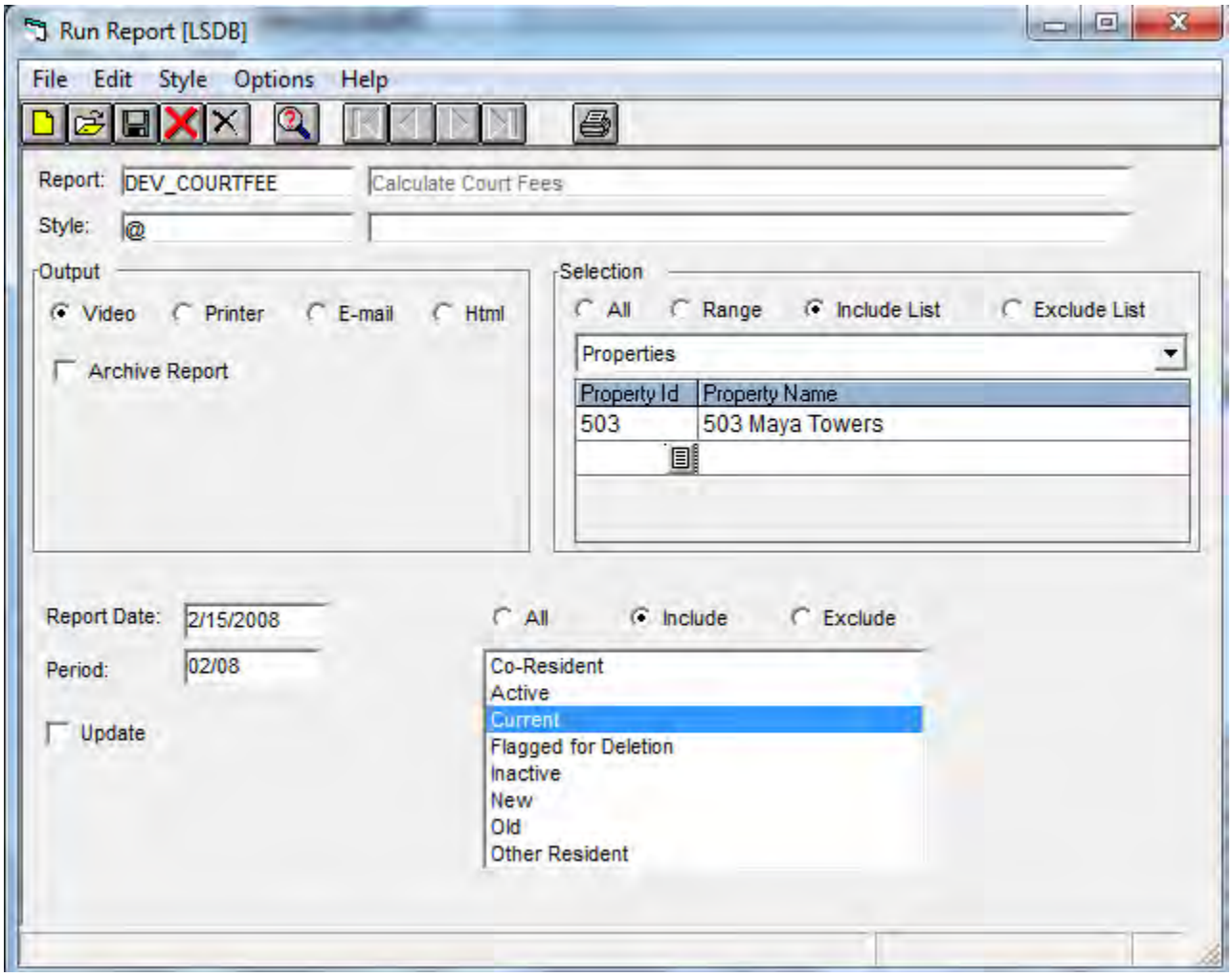
We only want to see Residents who have a count of Late Charges that are greater than zero AND an Open Amount greater than $100. If they don't meet these criteria, skip that record.



Note: The limit could also be defined as a runtime option.

There is a difference in the HideExpr:

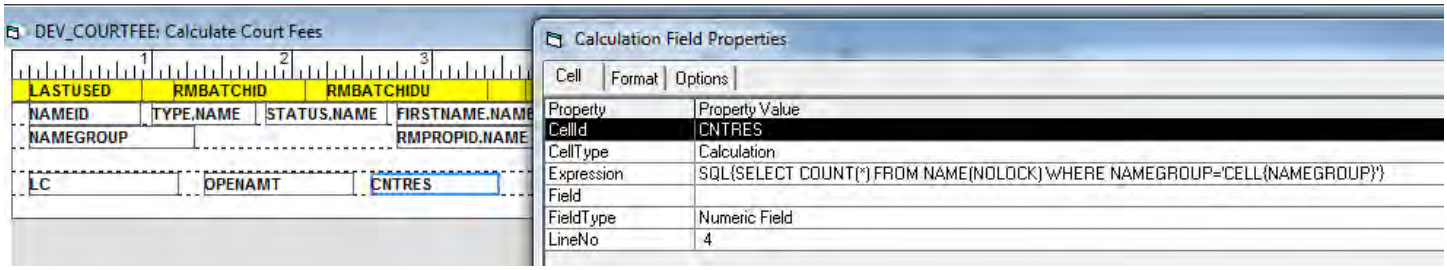




Note: When first testing the report, select to Include one or two Properties. Save the "All" selection until the report is complete.

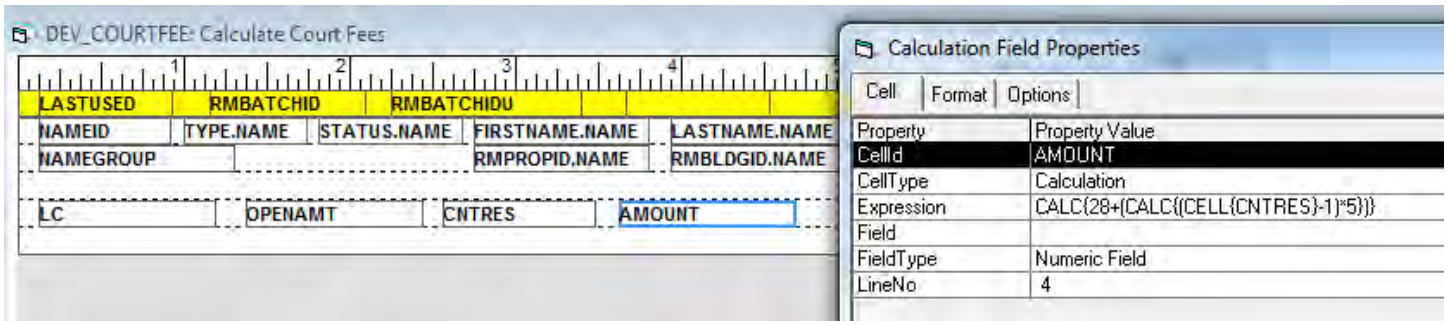
0	00000000000000	0		0		
0000000014	R	C	John	Stevenson		
0000000014			500	02	204	1
1	800					
0000000043	R	C	Megan	Hardin		
0000000043			503	002	017	1
2	2,105					
SF00000372	R	C	Angelene	Rebac		
SF00000372			504	002	014	1
1	387					

Now we'll add a calculation that counts the Residents associated with the NAMEGROUP Id.



SQL{SELECT COUNT(*) FROM NAME(NOLOCK) WHERE NAMEGROUP='CELL{NAMEGROUP}'}

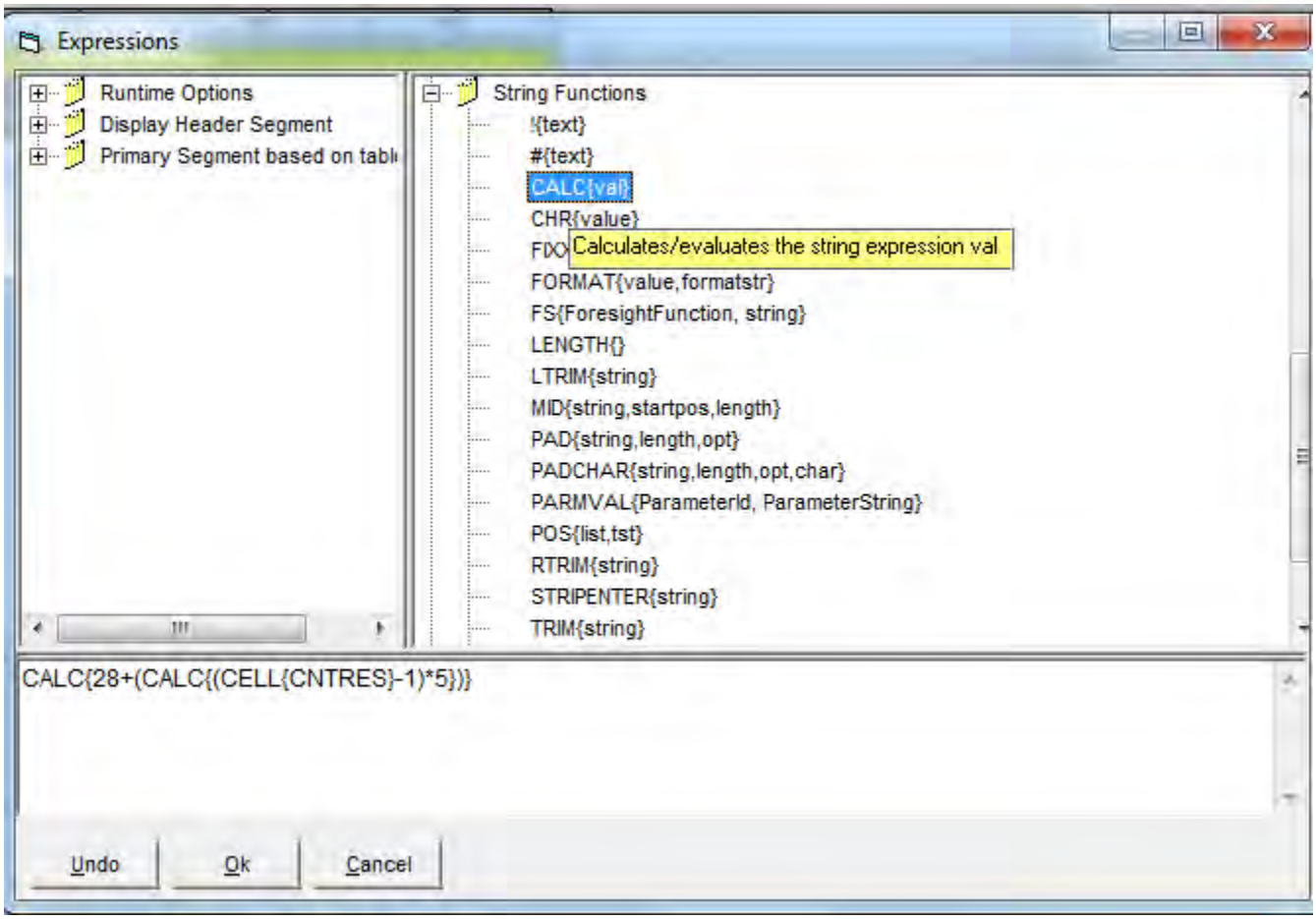
Based on the number of Residents calculated, we'll determine the Court Fee. This particular fee is $28 for the first Resident and then $5 for all others.

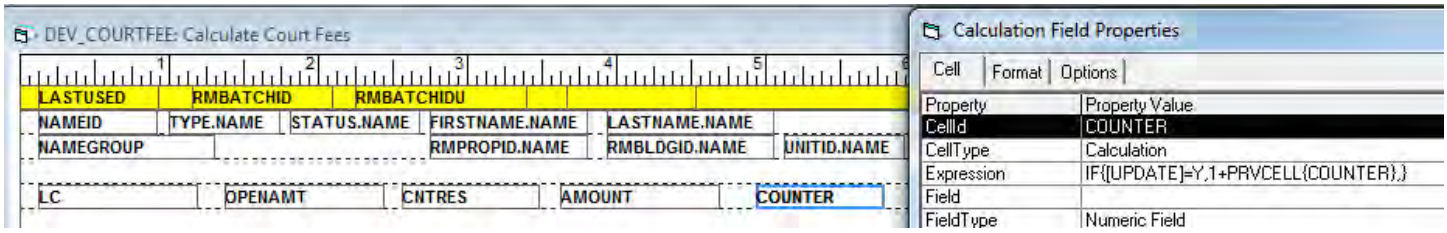


CALC{28+(CALC{(CELL{CNTRES}-1)*5})}

0		00000000000000		0		0				
0000000014	R		C		John		Stevenson			
0000000014					500		02	204		1
1		800		1		28				
0000000043	R		C		Megan		Hardin			
0000000043					503		002	017		1
2		2,105		1		28				
MT00000388	R		N		Rebecca		Samaan			
MT00000388					503		001	010		1
1		325		1		28				
MT00000400	R		N		Laura		Fredericks			
MT00000400					503		001	004		1
1		610		1		28				
SF00000372	R		C		Angelene		Rebac			
SF00000372					504		002	014		1
1		387		1		28				

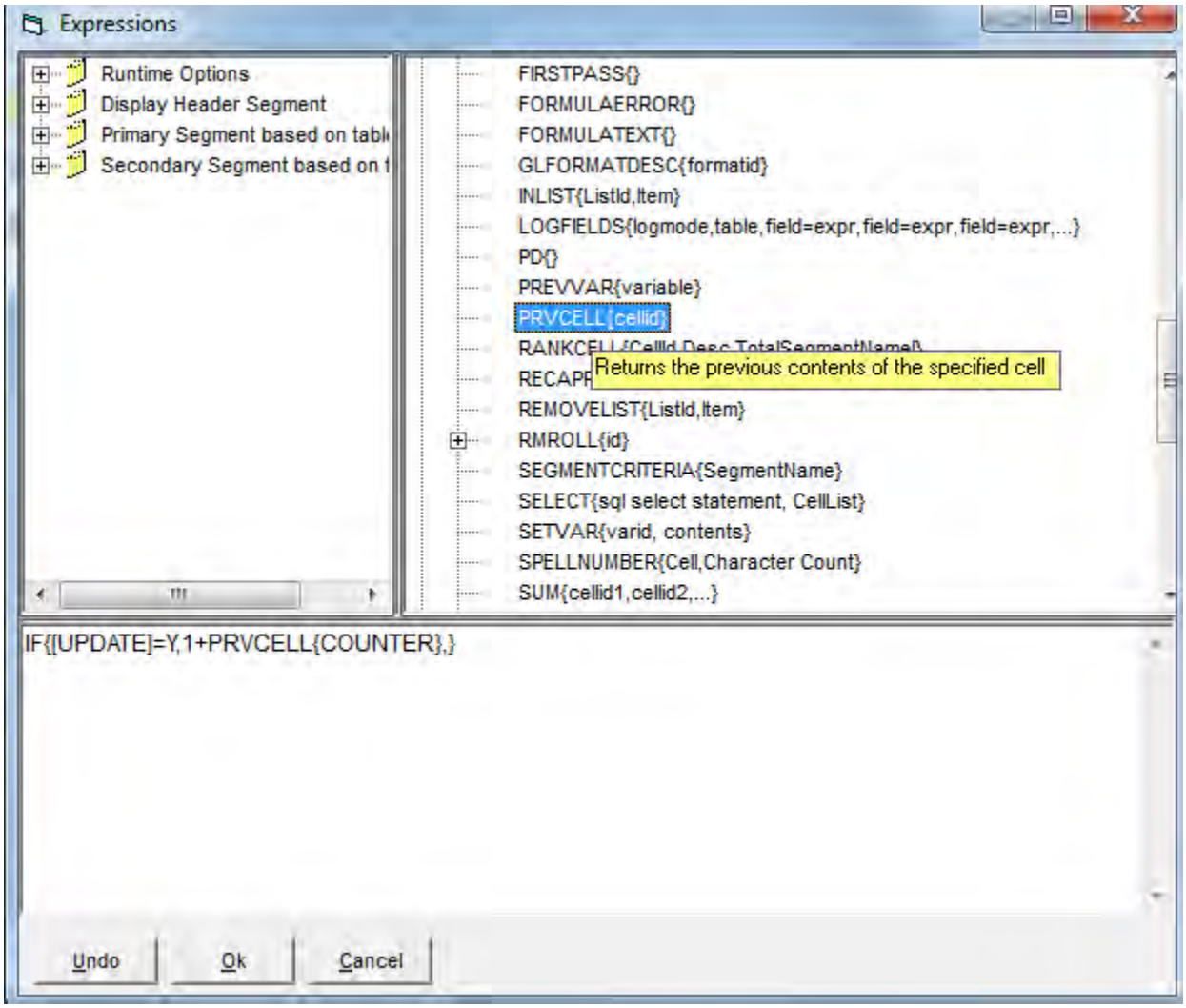
Advanced Report Design - RM



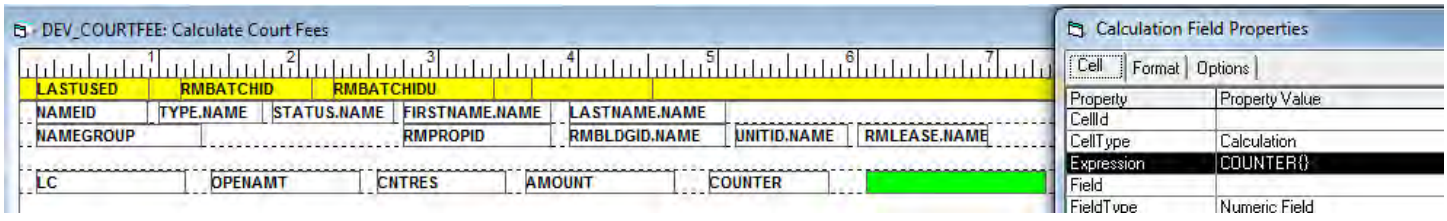


IF{[UPDATE]=Y,1+PRVCELL{COUNTER},}

This is to have a sequential number for our transactions.

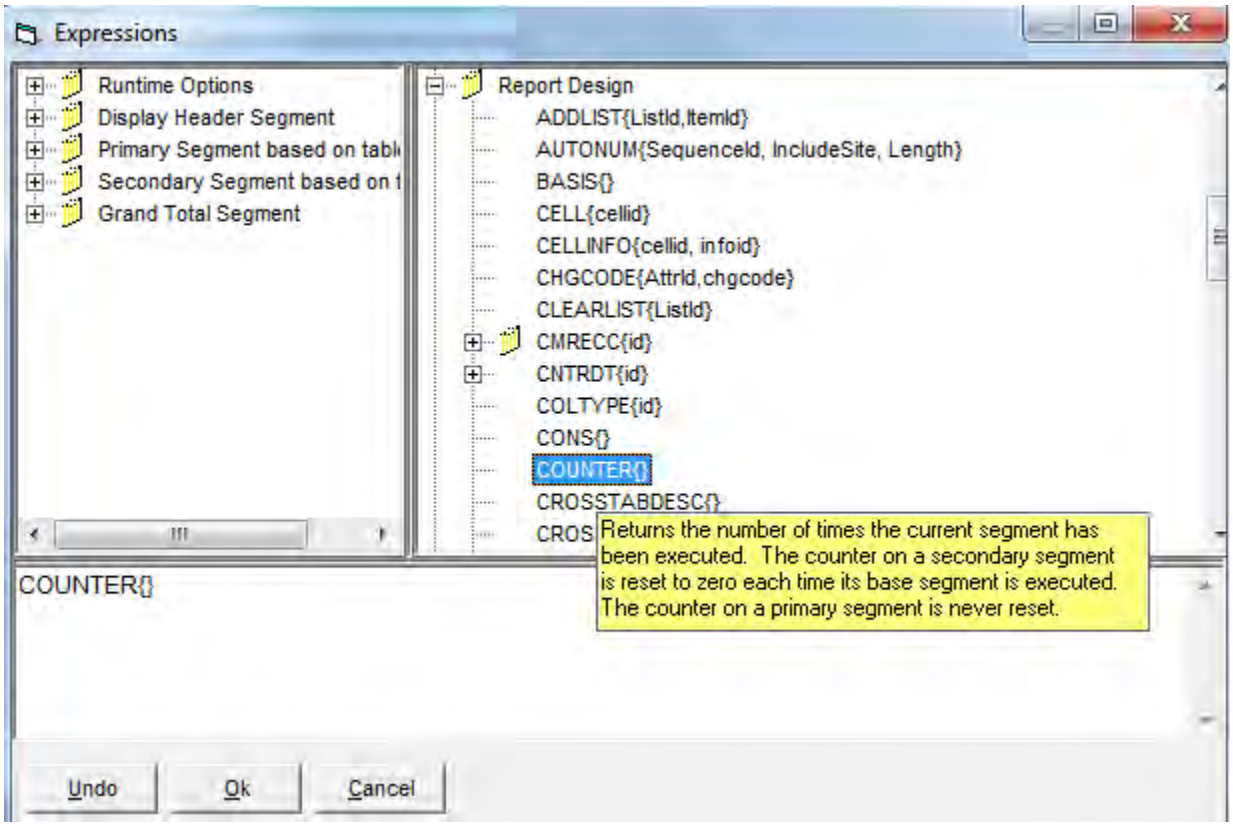


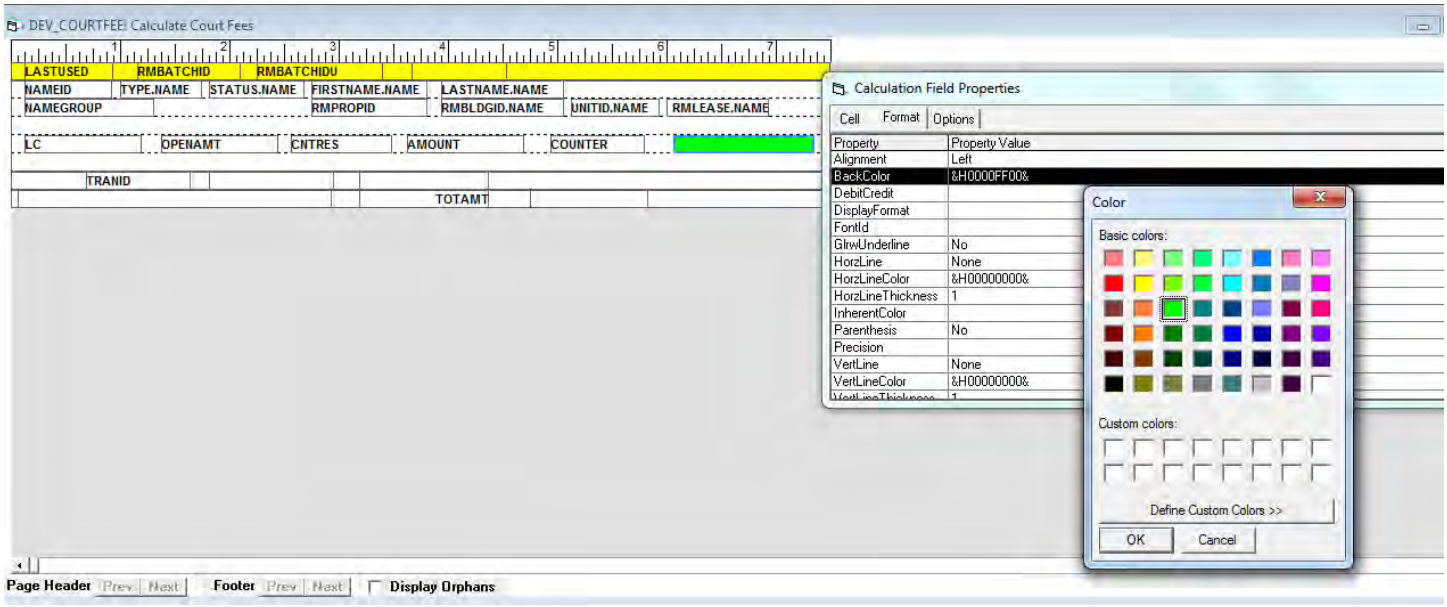
If I didn't care about sequential sequencing, I could have used the COUNTER{} function.



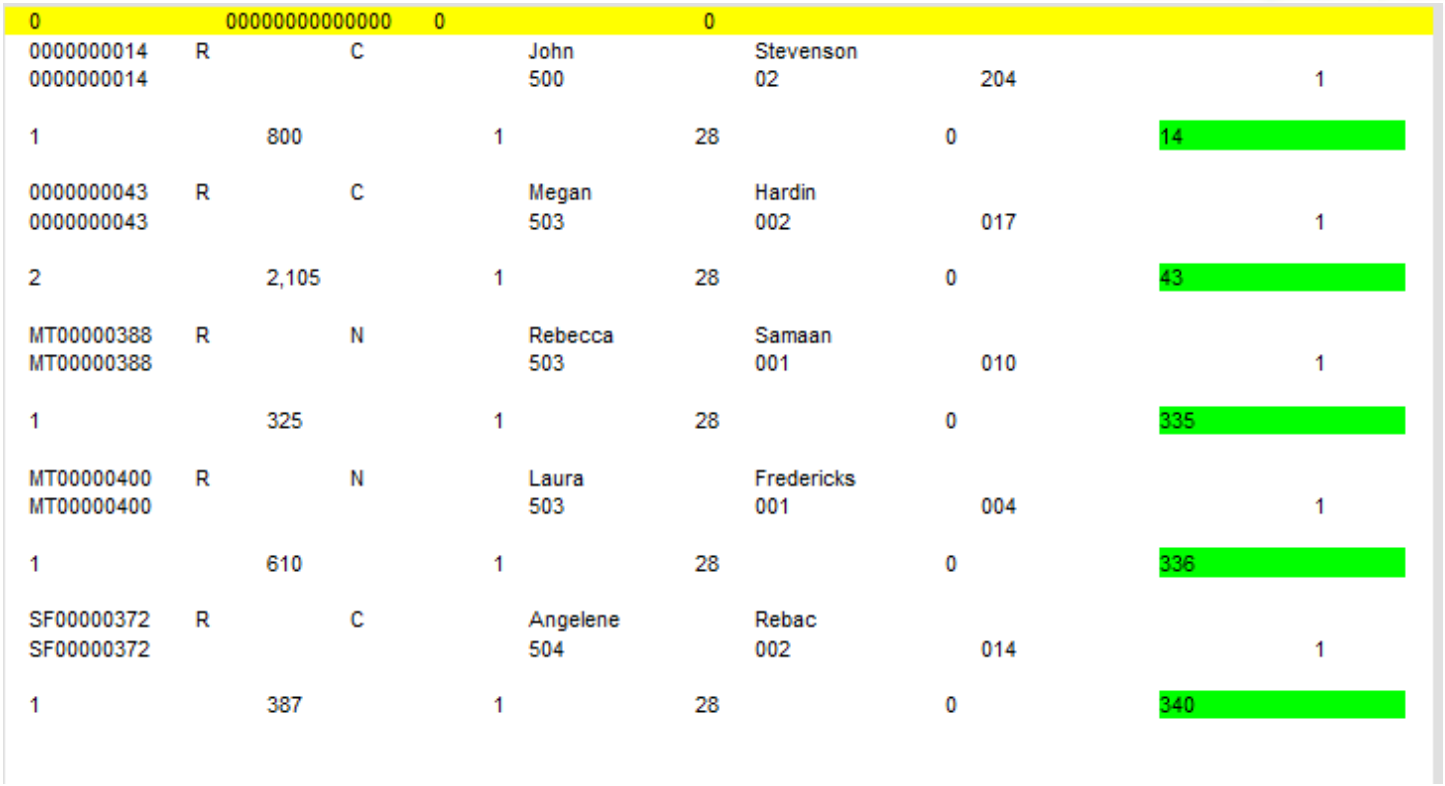
COUNTER{}

Advanced Report Design - RM





Tip: Highlight individual cells for several reasons: stand out, remind you to remove, special function such as insert, update, or delete, etc.

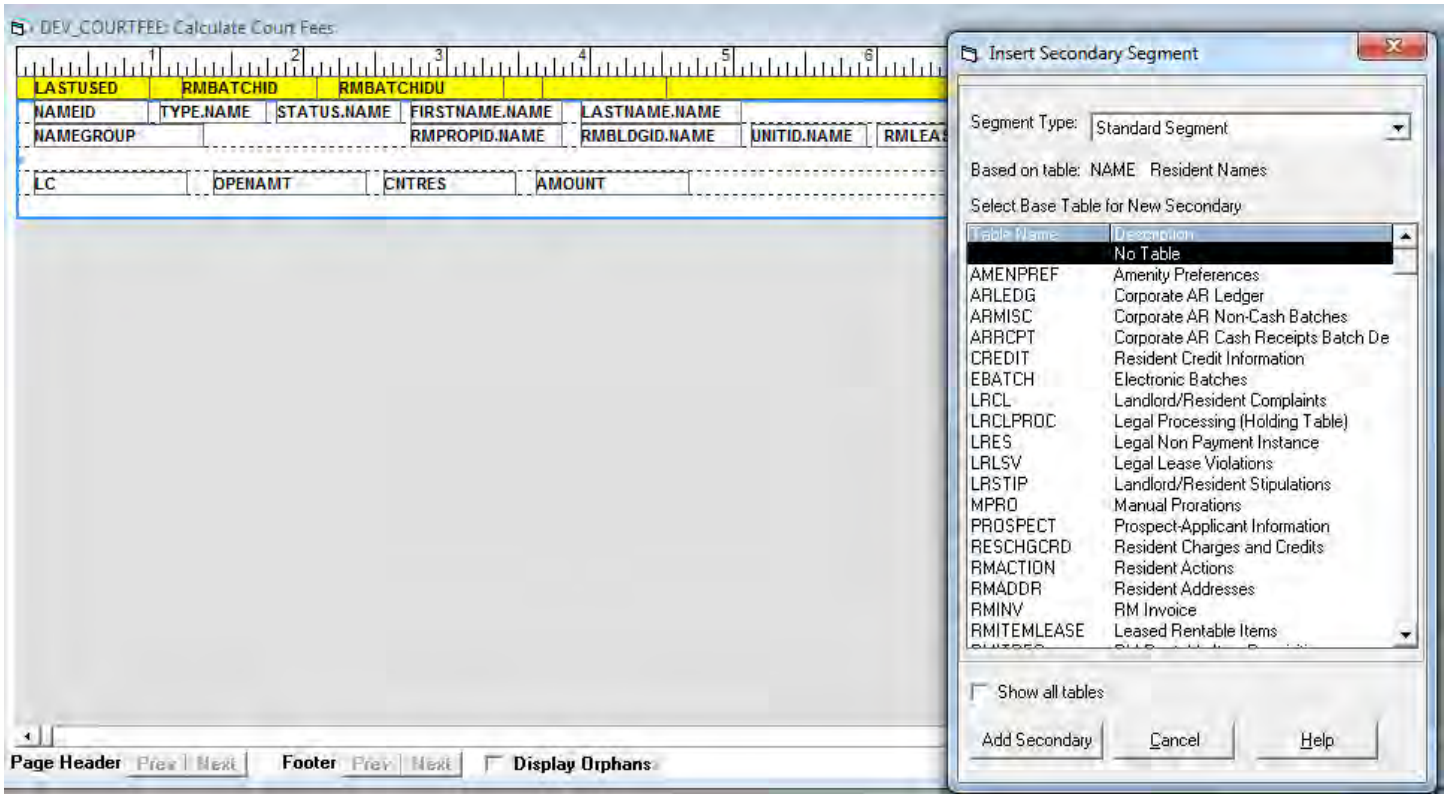


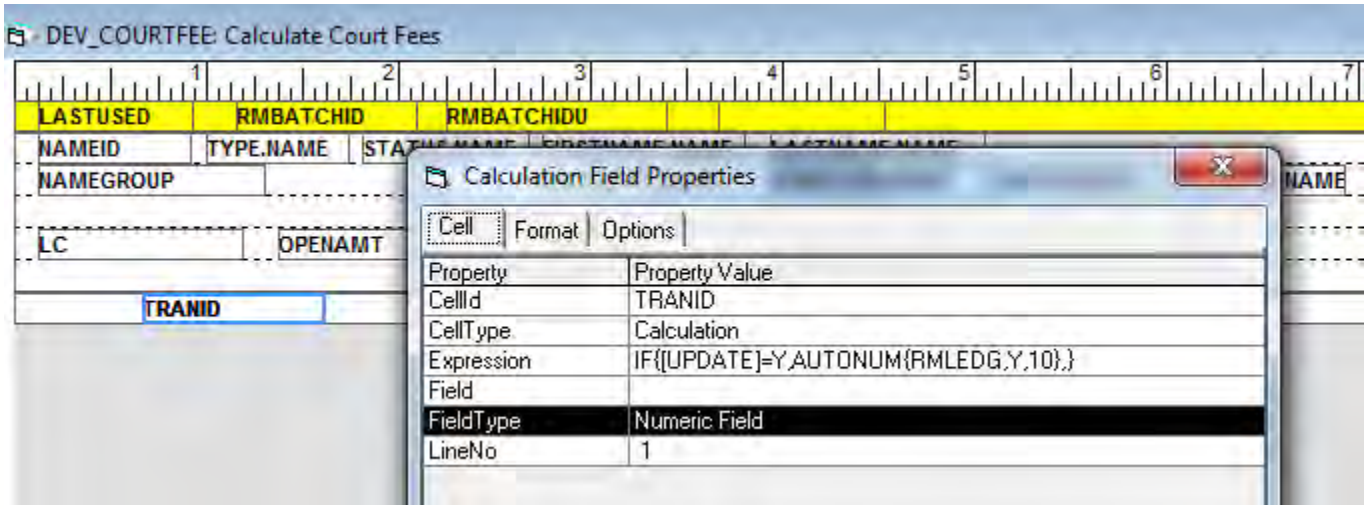
0		00000000000000	0			0					
0000000014	R		C		John		Stevenson				
0000000014					500		02		204		1
1		800		1		28		0		14	
0000000043	R		C		Megan		Hardin				
0000000043					503		002		017		1
2		2,105		1		28		0		43	
MT00000388	R		N		Rebecca		Samaan				
MT00000388					503		001		010		1
1		325		1		28		0		335	
MT00000400	R		N		Laura		Fredericks				
MT00000400					503		001		004		1
1		610		1		28		0		336	
SF00000372	R		C		Angelene		Rebac				
SF00000372					504		002		014		1
1		387		1		28		0		340	

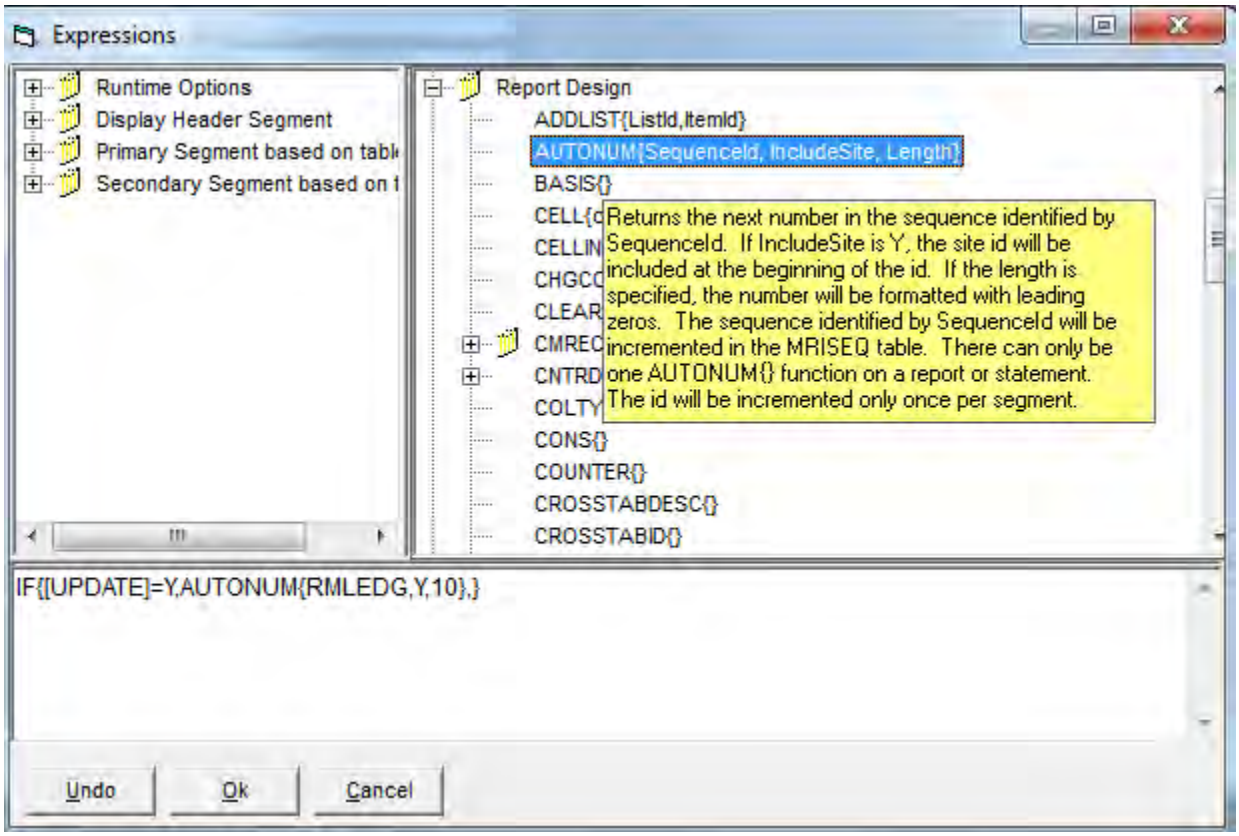
Because of the SKIPEXPR, the count may not be sequential.

Now, we'll create a Secondary Segment which will contain our Insert and Update calculations.

This type of segment does not need a Table Name identified. Select No Table.



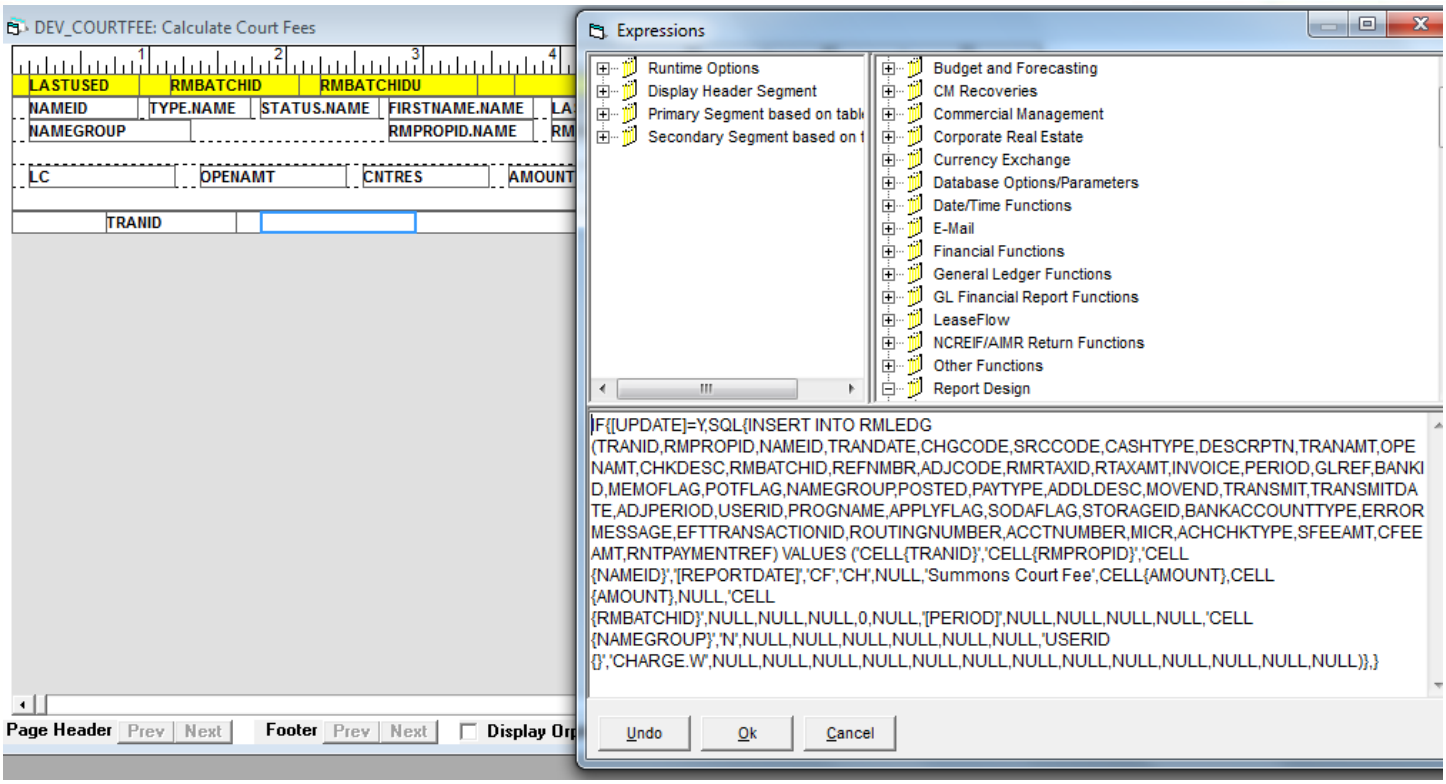




IF{[UPDATE]=Y,AUTONUM{RMLEDG,Y,10},}

Since only one AUTONUM function can be used in the report, the decision was made that the RMBATCH Id would be manually incremented, as I wanted the TRANID to use this function.

Advanced Report Design - RM

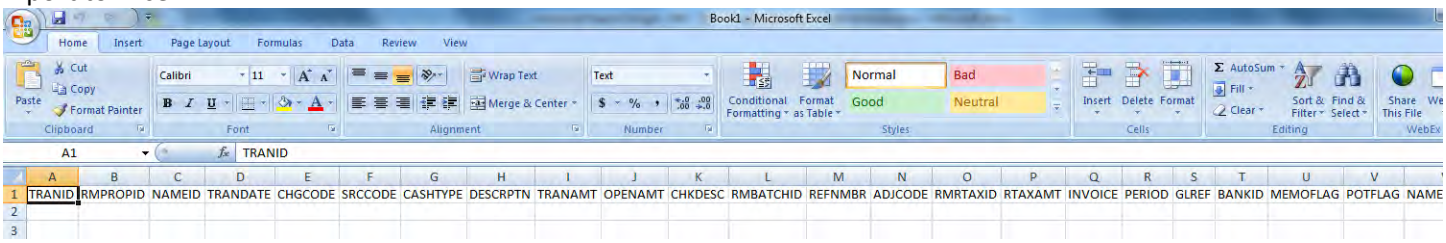


This cell inserts each record into the RMLEDG Table.

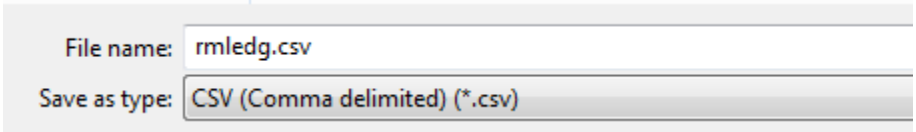
IF{[UPDATE]=Y,SQL{INSERT INTO RMLEDG
(TRANID,RMPROPID,NAMEID,TRANDATE,CHGCODE,SRCCODE,CASHTYPE,DESCRPTN,TRANAMT,OPENAMT,CHKDESC,RMB
ATCHID,REFNMBR,ADJCODE,RMRTAXID,RTAXAMT,INVOICE,PERIOD,GLREF,BANKID,MEMOFLAG,POTFLAG,NAMEGROUP,
POSTED,PAYTYPE,ADDLDESC,MOVEND,TRANSMIT,TRANSMITDATE,ADJPERIOD,USERID,PROGNAME,APPLYFLAG,SODAFL
AG,STORAGEID,BANKACCOUNTTYPE,ERRORMESSAGE,EFTTRANSACTIONID,ROUTINGNUMBER,ACCTNUMBER,MICR,ACHC
HKTYPE,SFEEAMT,CFEEAMT,RNTPAYMENTREF) VALUES
('CELL{TRANID}','CELL{RMPROPID}','CELL{NAMEID}','[REPORTDATE]','CF','CH',NULL,'Summons Court
Fee',CELL{AMOUNT},CELL{AMOUNT},NULL,'CELL{RMBATCHID}',NULL,NULL,NULL,0,NULL,'[PERIOD]',NULL,NULL,NULL,NU
LL,'CELL{NAMEGROUP}','N',NULL,NULL,NULL,NULL,NULL,NULL,'USERID{}','CHARGE.W',NULL,NULL,NULL,NULL,NULL,NULL
,NULL,NULL,NULL,NULL,NULL,NULL,NULL)},}

Tip:

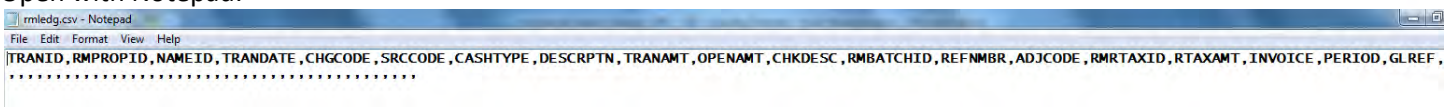
Export to Excel:



Saved a .CSV file.

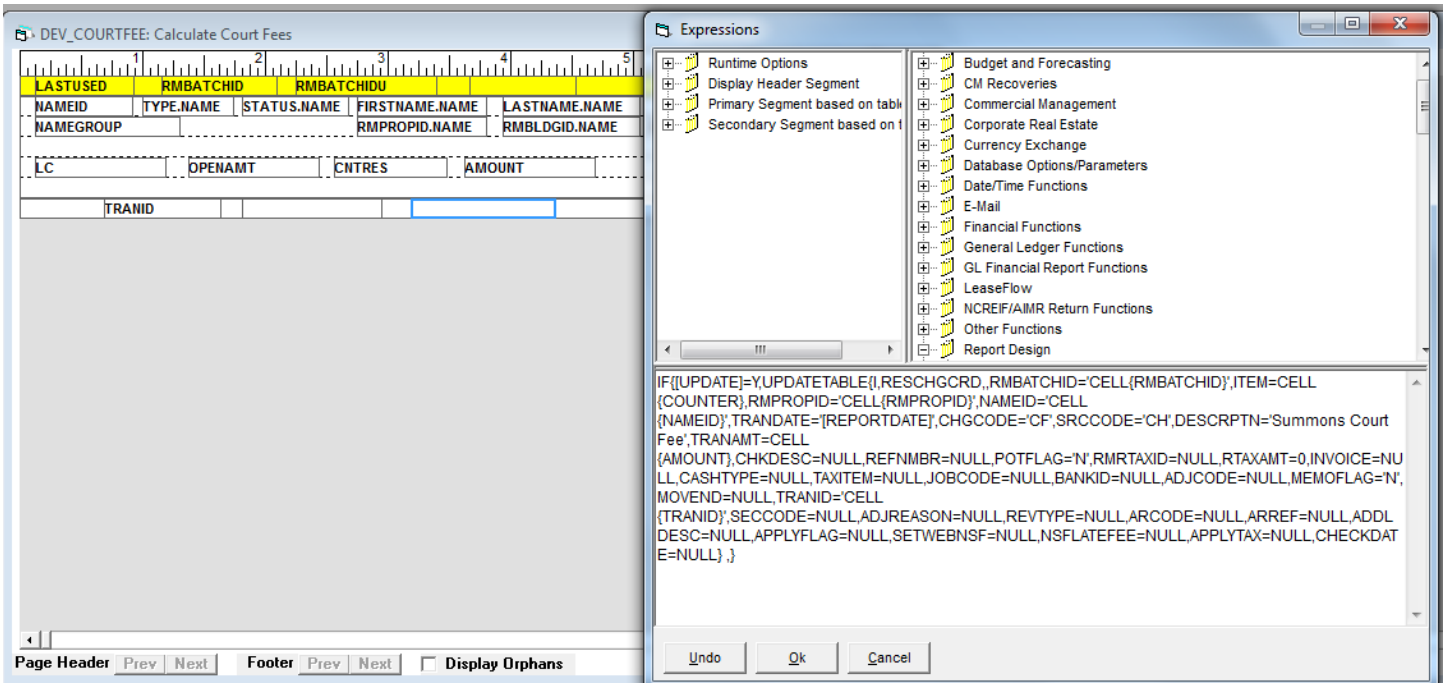


Open with Notepad:



Exclude all the commas at the end:

TRANID,RMPROPID,NAMEID,TRANDATE,CHGCODE,SRCCODE,CASHTYPE,DESCRPTN,TRANAMT,OPENAMT,CHKDESC,RMBATCHID,REFNMBR,ADJCODE,RMRTAXID,RTAXAMT,INVOICE,PERIOD,GLREF,BANKID,MEMOFLAG,POTFLAG,NAMEGROUP,POSTED,PAYTYPE,ADDLDESC,MOVEND,TRANSMIT,TRANSMITDATE,ADJPERIOD,USERID,PROGNAME,APPLYFLAG,SODAFLAG,STORAGEID,BANKACCOUNTTYPE,ERRORMESSAGE,EFTTRANSACTIONID,ROUTINGNUMBER,ACCTNUMBER,MICR,ACHCHKTYPE,SFEEAMT,CFEEAMT,RNTPAYMENTREF

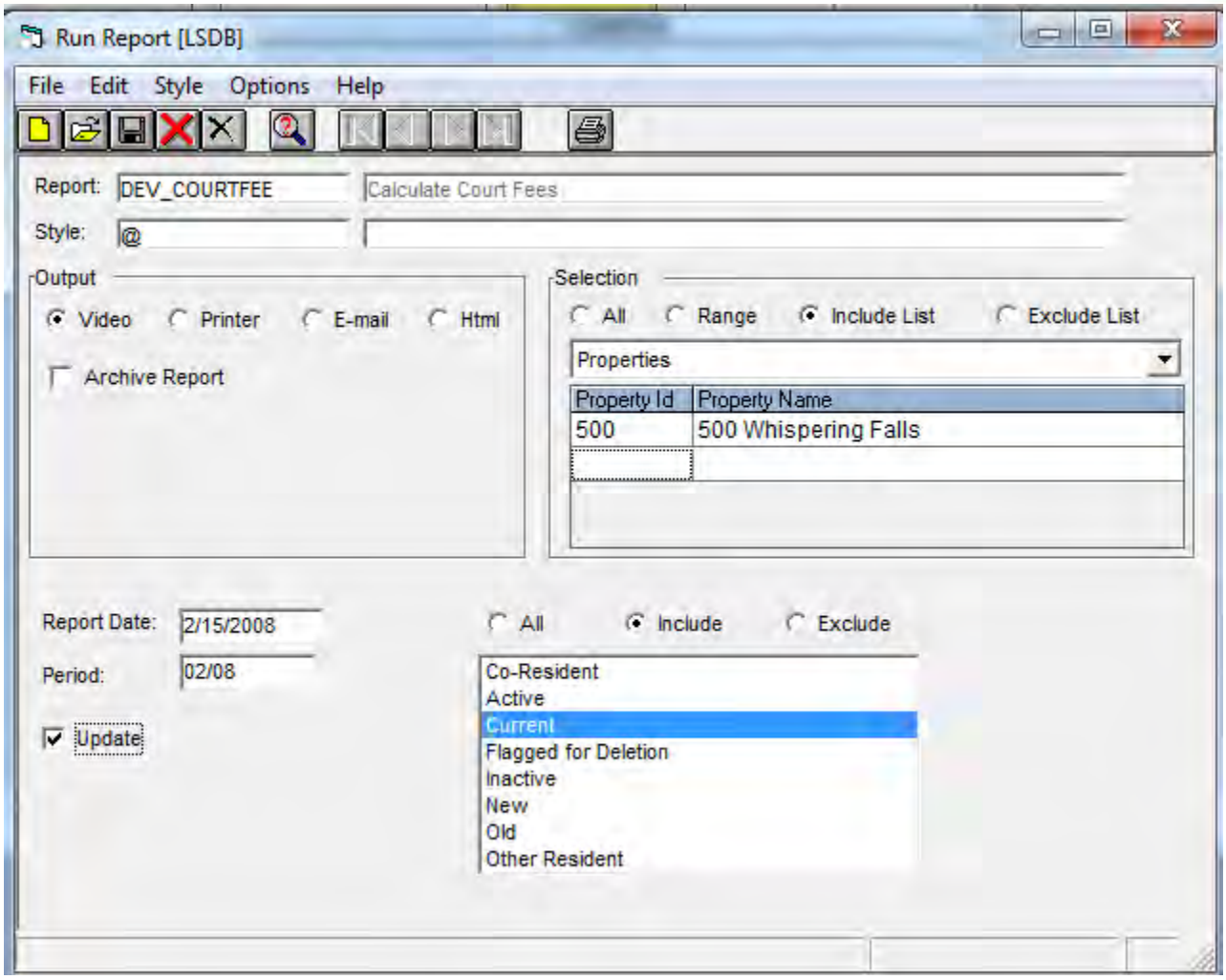


Then, insert records into the RM Resident Charges and Credits (RESCHGCRD) Table.

IF{[UPDATE]=Y,UPDATETABLE{I,RESCHGCRD,,RMBATCHID='CELL{RMBATCHID}',ITEM=CELL{COUNTER},RMPROPID='CELL{RMPROPID}',NAMEID='CELL{NAMEID}',TRANDATE='[REPORTDATE]',CHGCODE='CF',SRCCODE='CH',DESCRPTN='Summons Court
Fee',TRANAMT=CELL{AMOUNT},CHKDESC=NULL,REFNMBR=NULL,POTFLAG='N',RMRTAXID=NULL,RTAXAMT=0,INVOICE=NULL,CASHTYPE=NULL,TAXITEM=NULL,JOBCODE=NULL,BANKID=NULL,ADJCODE=NULL,MEMOFLAG='N',MOVEND=NULL,TRANID='CELL{TRANID}',SECCODE=NULL,ADJREASON=NULL,REVTYPE=NULL,ARCODE=NULL,ARREF=NULL,ADDLDESC=NULL,APPLYFLAG=NULL,SETWEBNSF=NULL,NSFLATEFEE=NULL,APPLYTAX=NULL,CHECKDATE=NULL} ,}

0		00000000000000	0		0						
0000000014	R		C		John		Stevenson				
0000000014					500		02		204		1
1		800		1		28		0		14	
	0		0								
0000000043	R		C		Megan		Hardin				
0000000043					503		002		017		1
2		2,105		1		28		0		43	
	0		0								
MT00000388	R		N		Rebecca		Samaan				
MT00000388					503		001		010		1
1		325		1		28		0		335	
	0		0								
MT00000400	R		N		Laura		Fredericks				
MT00000400					503		001		004		1
1		610		1		28		0		336	
	0		0								
SF00000372	R		C		Angelene		Rebac				
SF00000372					504		002		014		1
1		387		1		28		0		340	
	0		0								

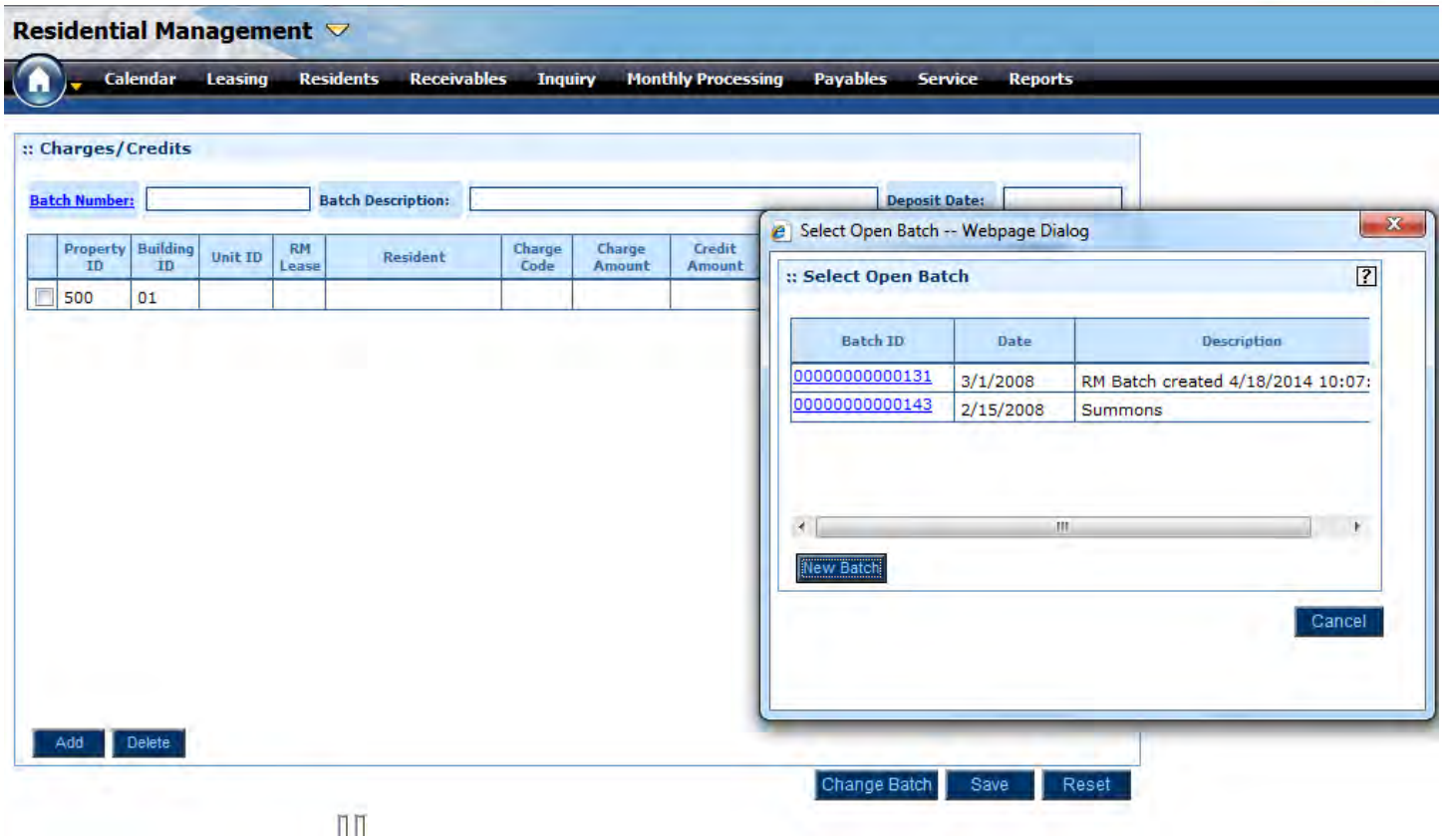
Advanced Report Design - RM

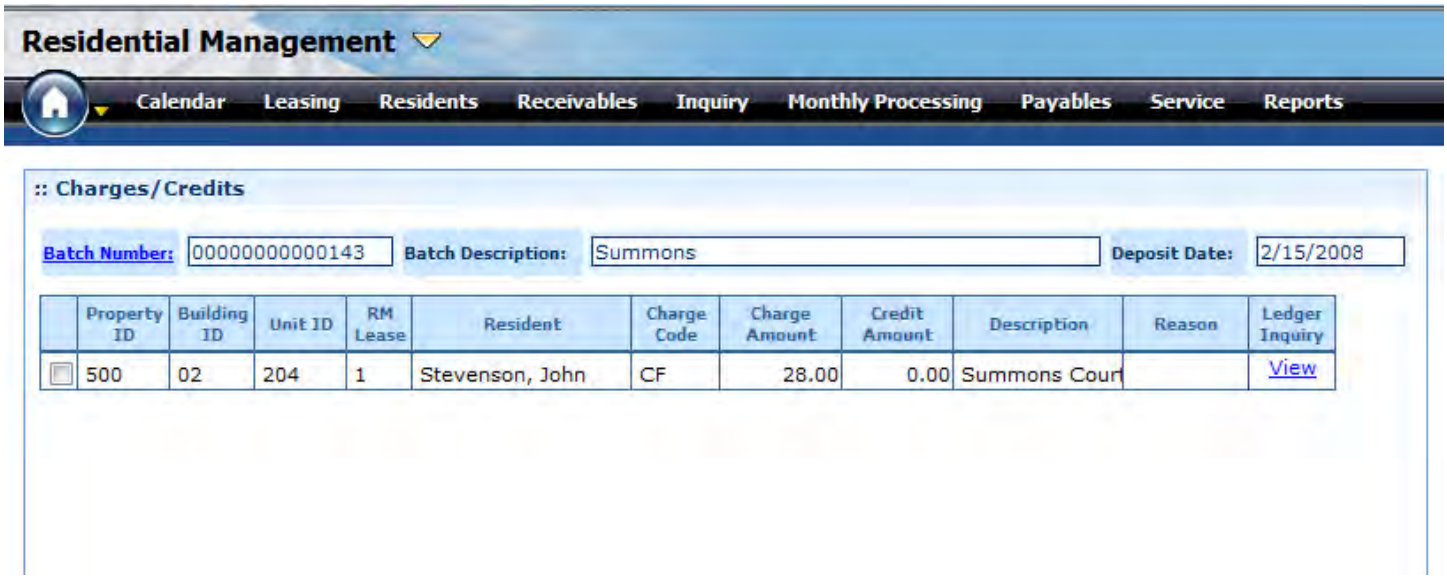


Trying it in Update Mode!

| | | |

Advanced Report Design - RM





Advanced Report Design - RM

Ledger Summary -- Webpage Dialog

:: Resident Ledger Inquiry

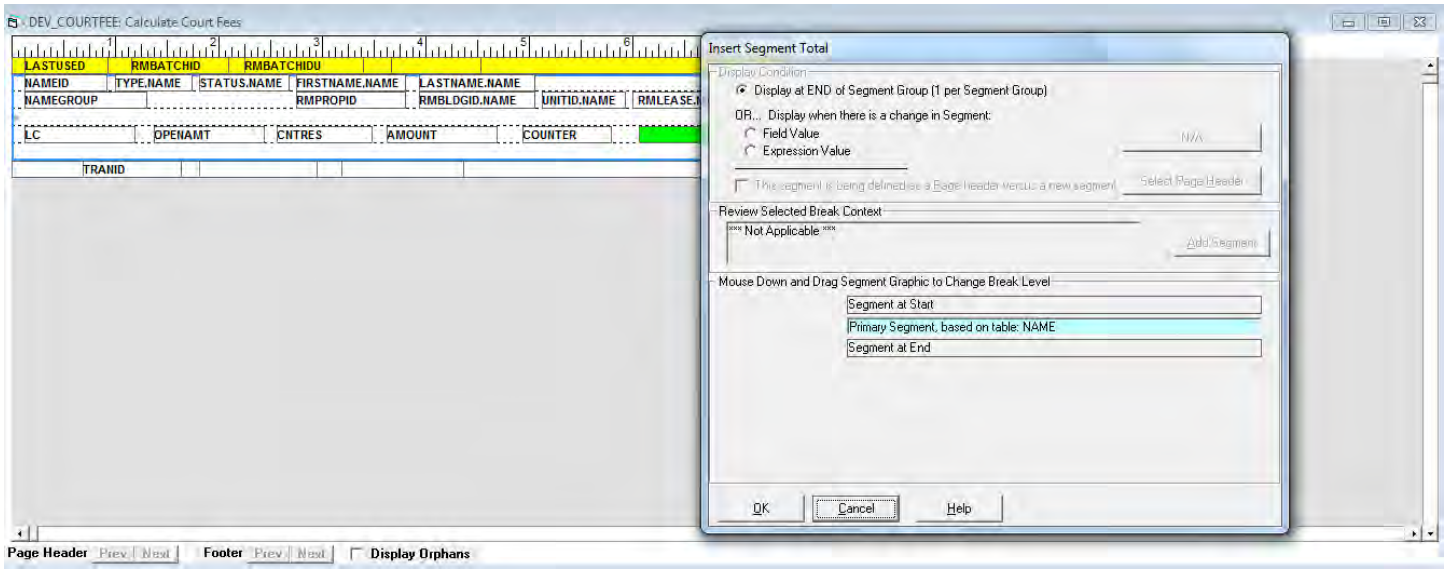
Resident ID:	500	02	204	1	John Stevenson		
Beginning Period:	02/07	Include Pending Prorations				Current Balance:	1,550.00
Ending Period:	03/08	Load Grid				Deposits on Hand:	0.00

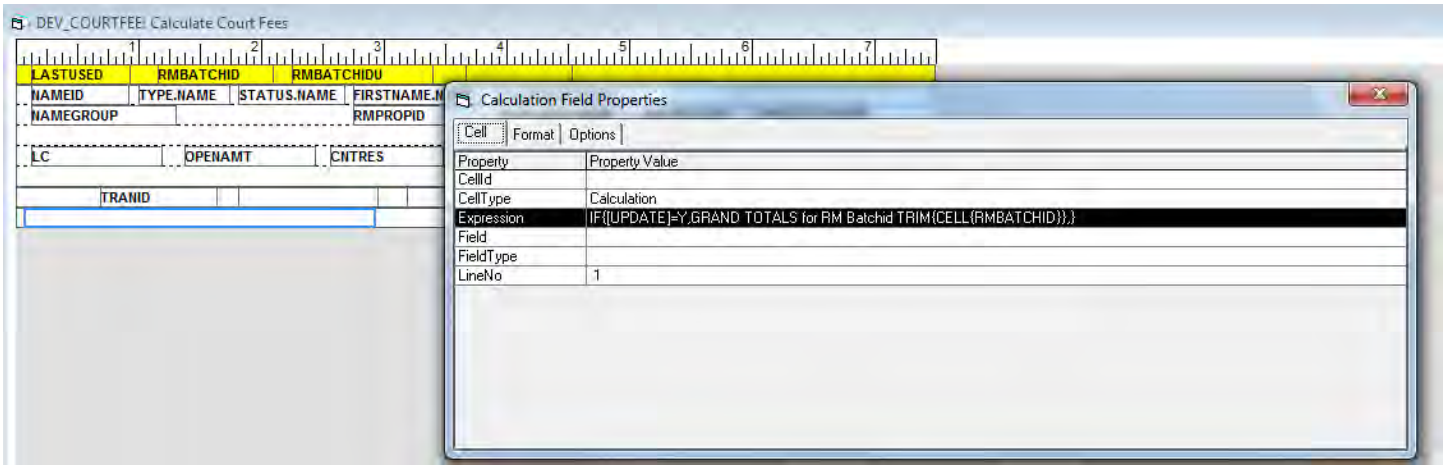
Summary | Detail

Period	Charge Code	Description	Beg Bal	Charges	Cash Recd	Adjustments	Ending Bal
03/08	CF	COURT FEE	28.00	0.00	0.00	0.00	28.00
	LAT	Late Fee	50.00	0.00	0.00	0.00	50.00
	RNT	Rent	1,500.00	750.00	-750.00	0.00	1,500.00
		TOTAL	**1,578.00**	**750.00**	**-750.00**	**0.00**	**1,578.00**
02/08	CF	COURT FEE	0.00	28.00	0.00	0.00	28.00
	LAT	Late Fee	0.00	50.00	0.00	0.00	50.00
	RNT	Rent	750.00	750.00	0.00	0.00	1,500.00
		TOTAL	**750.00**	**828.00**	**0.00**	**0.00**	**1,578.00**
01/08	RNT	Rent	0.00	750.00	0.00	0.00	750.00
		TOTAL	**0.00**	**750.00**	**0.00**	**0.00**	**750.00**

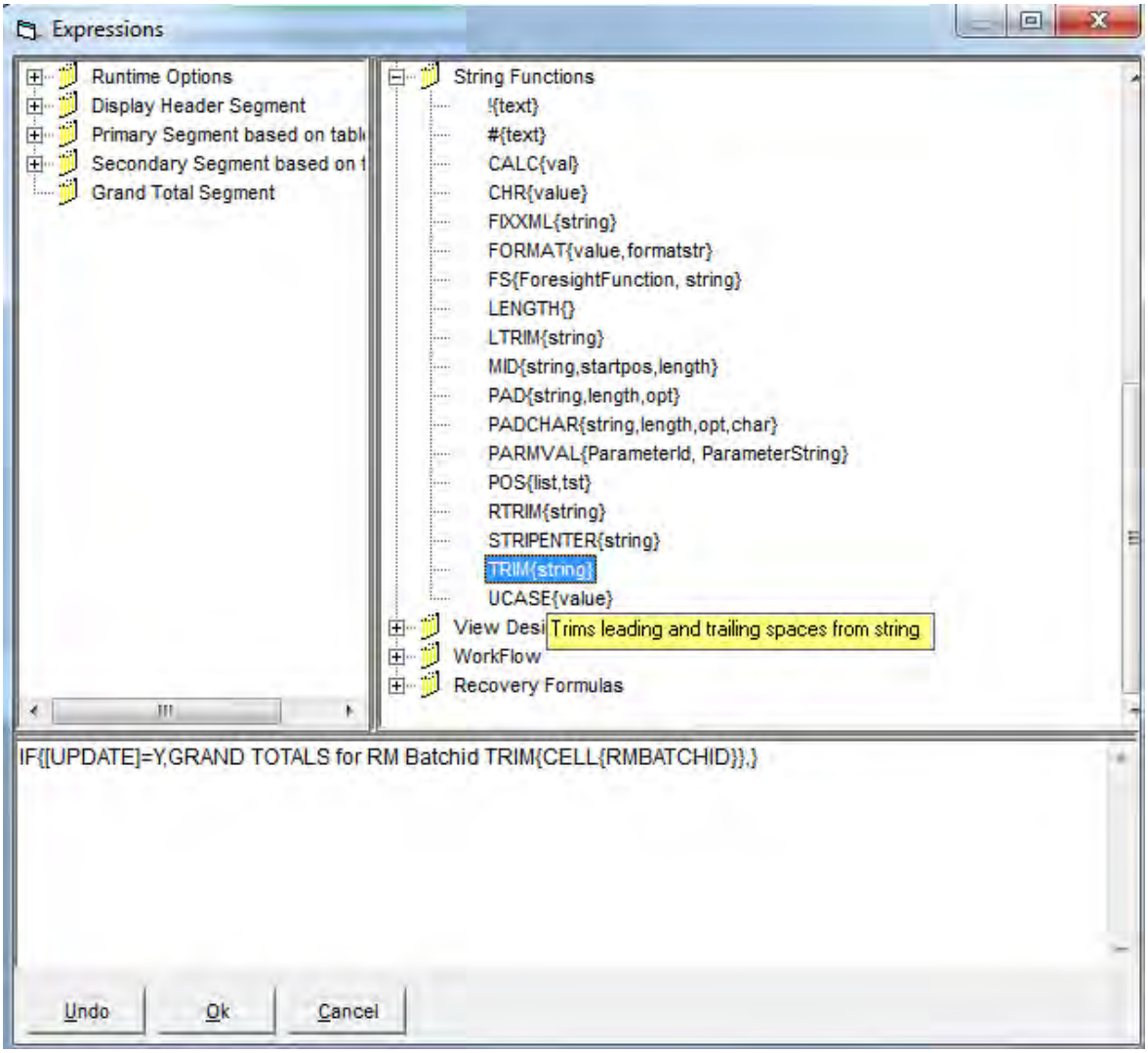
Print Report

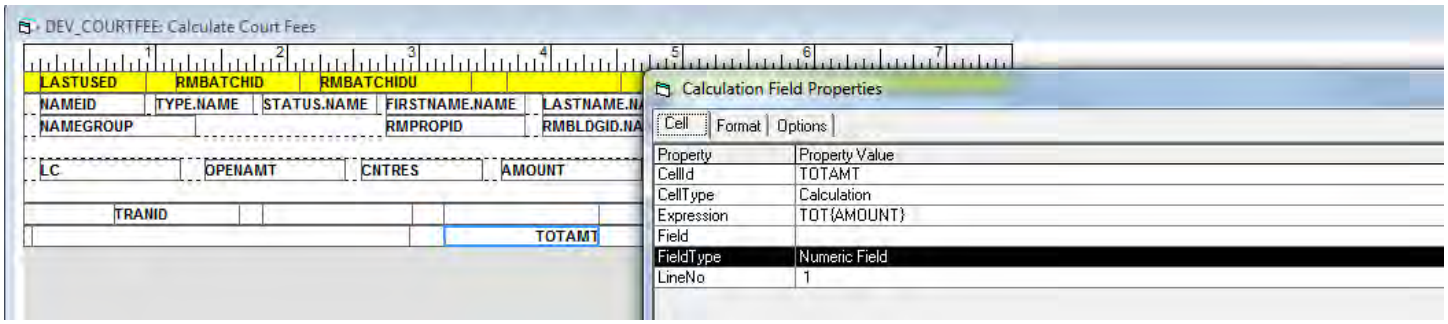
Now we can add a Total Segment to our report.



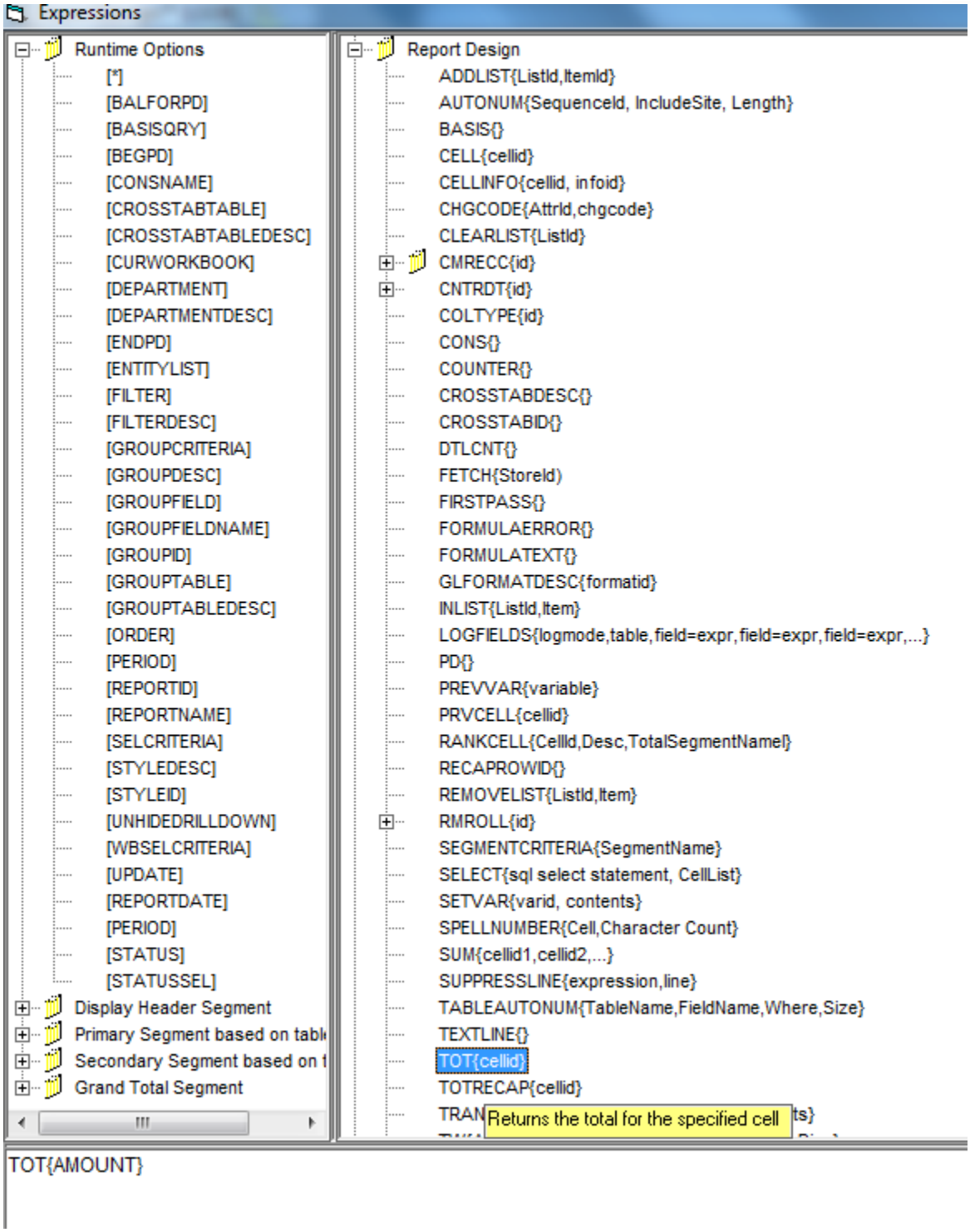


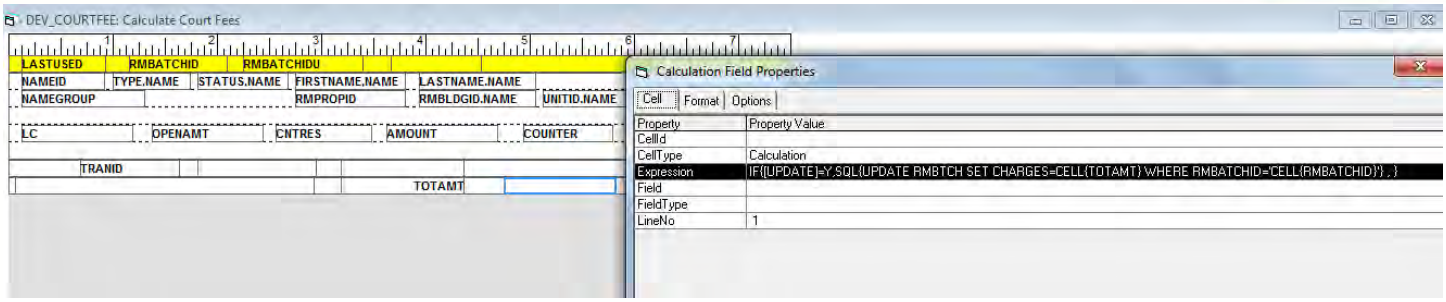
IF{[UPDATE]=Y,GRAND TOTALS for RM Batch Id TRIM{CELL{RMBATCHID}},}




DEV_COURTFEE: Calculate Court Fees
LASTUSED
RMBATCHID
RMBATCHIDU
NAMEID
TYPE.NAME
STATUS.NAME
FIRSTNAME.NAME
NAMEGROUP
RMPROPID
LC
OPENAMT
CNTRES
AMOUNT
TRANID
TOTAMT
Calculation Field Properties
Cell
Format
Options
Property
Property Value
CellId
TOTAMT
CellType
Calculation
Expression
TOT(AMOUNT)
Field
FieldType
Numeric Field
LineNo
1

Advanced Report Design - RM



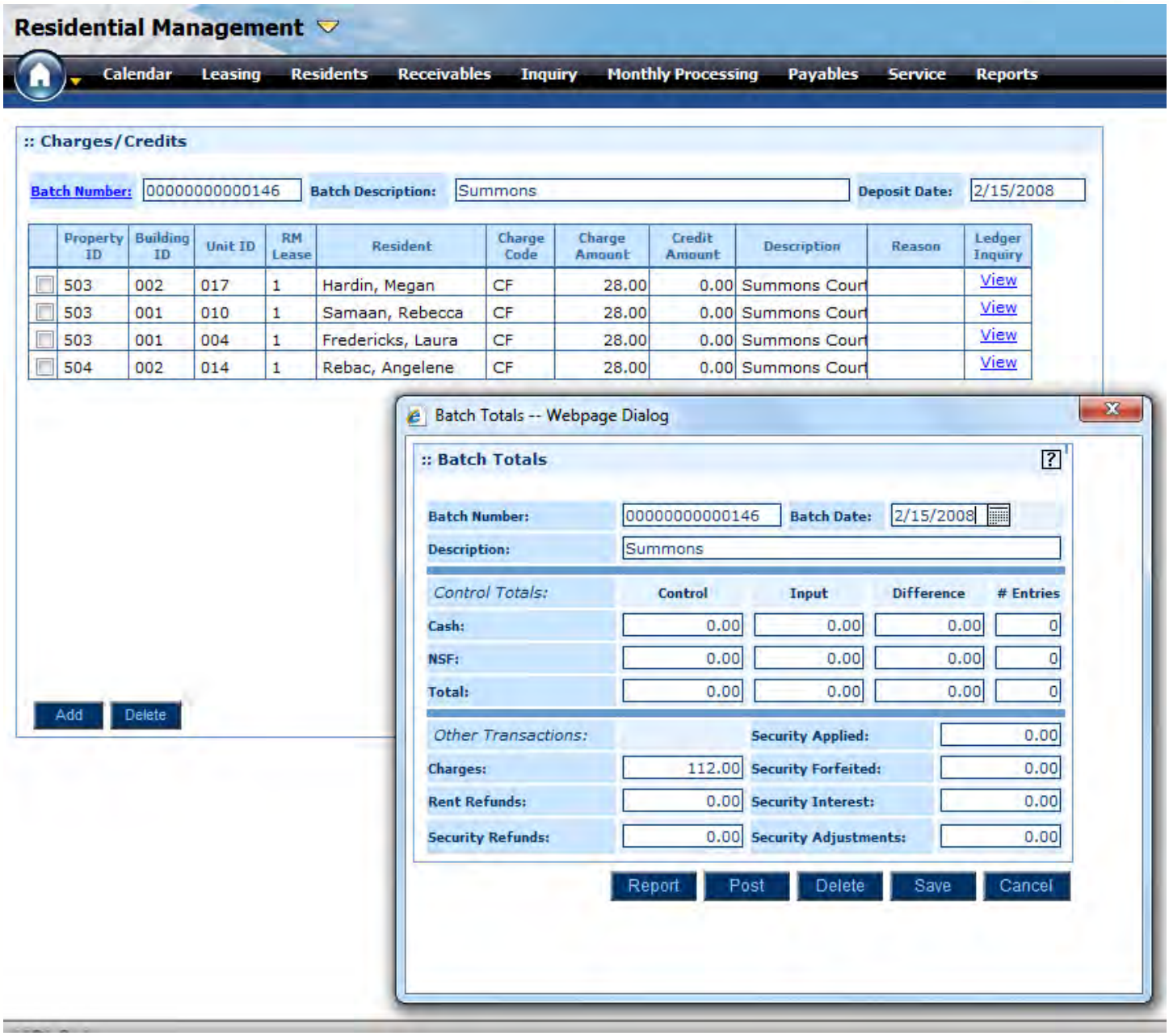


IF{[UPDATE]=Y,SQL{UPDATE RMBTCH SET CHARGES=CELL{TOTAMT} WHERE RMBATCHID='CELL{RMBATCHID}'} , }

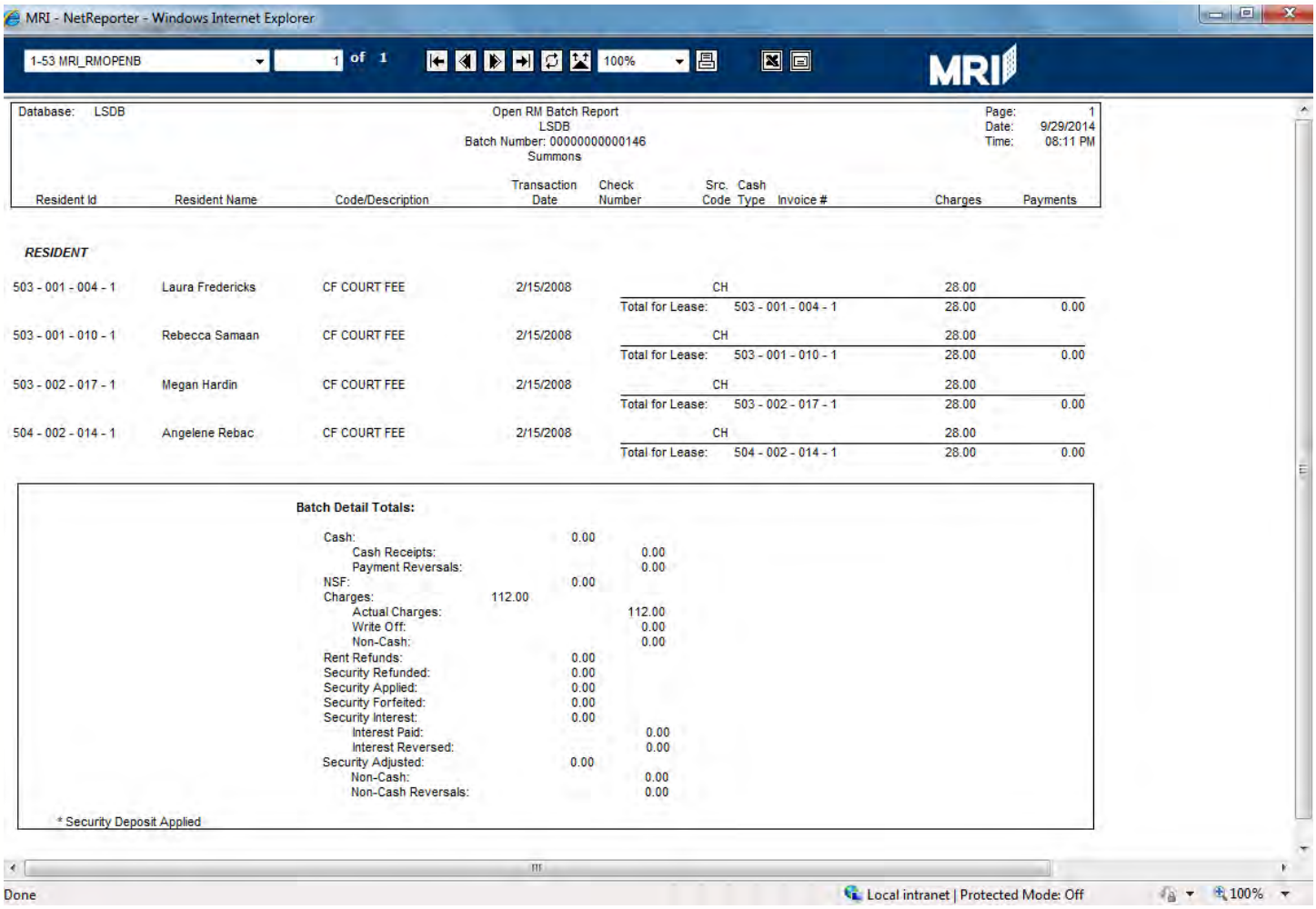
So now we've identified the information in the Total Segment with a title for the Total, which includes the RM Batch Id; we've summed all amounts, and then we've updated the Batch with the total information so the batch can be posted.

```
146                 00000000000146    -1                  0
0000000043    R              C              Megan              Hardin
0000000043                                  503                002                017                1

2                  2,105                1                28                1                11

          4,448                -1
MT00000388    R              N              Rebecca            Samaan
MT00000388                                  503                001                010                1

1                  325                  1                28                2                41

          4,449                -1
MT00000400    R              N              Laura              Fredericks
MT00000400                                  503                001                004                1

1                  610                  1                28                3                42

          4,450                -1
SF00000372    R              C              Angelene           Rebac
SF00000372                                  504                002                014                1

1                  387                  1                28                4                46

          4,451                -1
GRAND TOTALS for RM Batchid 00000000000146                          112        -1
```

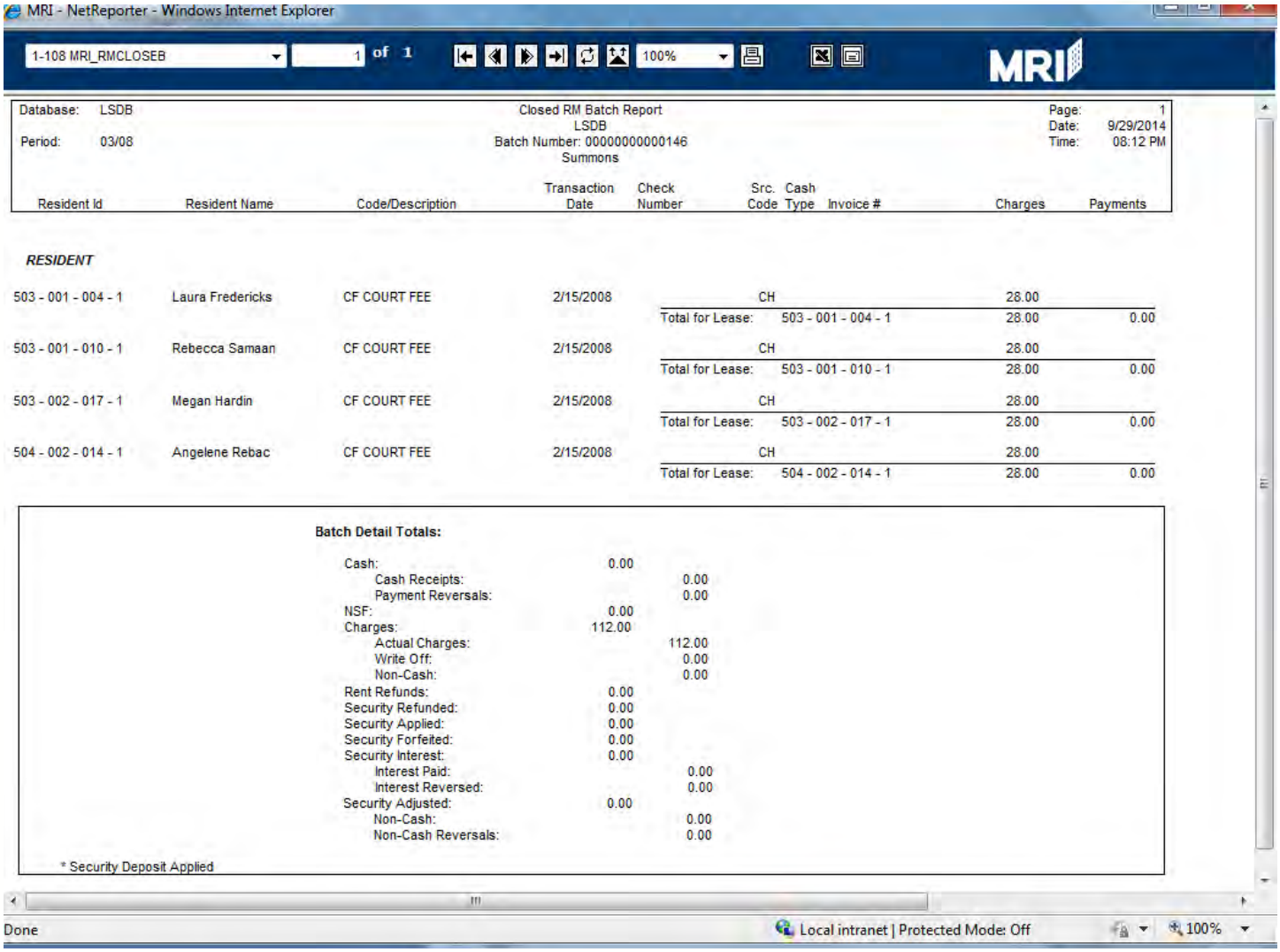
Advanced Report Design - RM



Advanced Report Design - RM



Advanced Report Design - RM

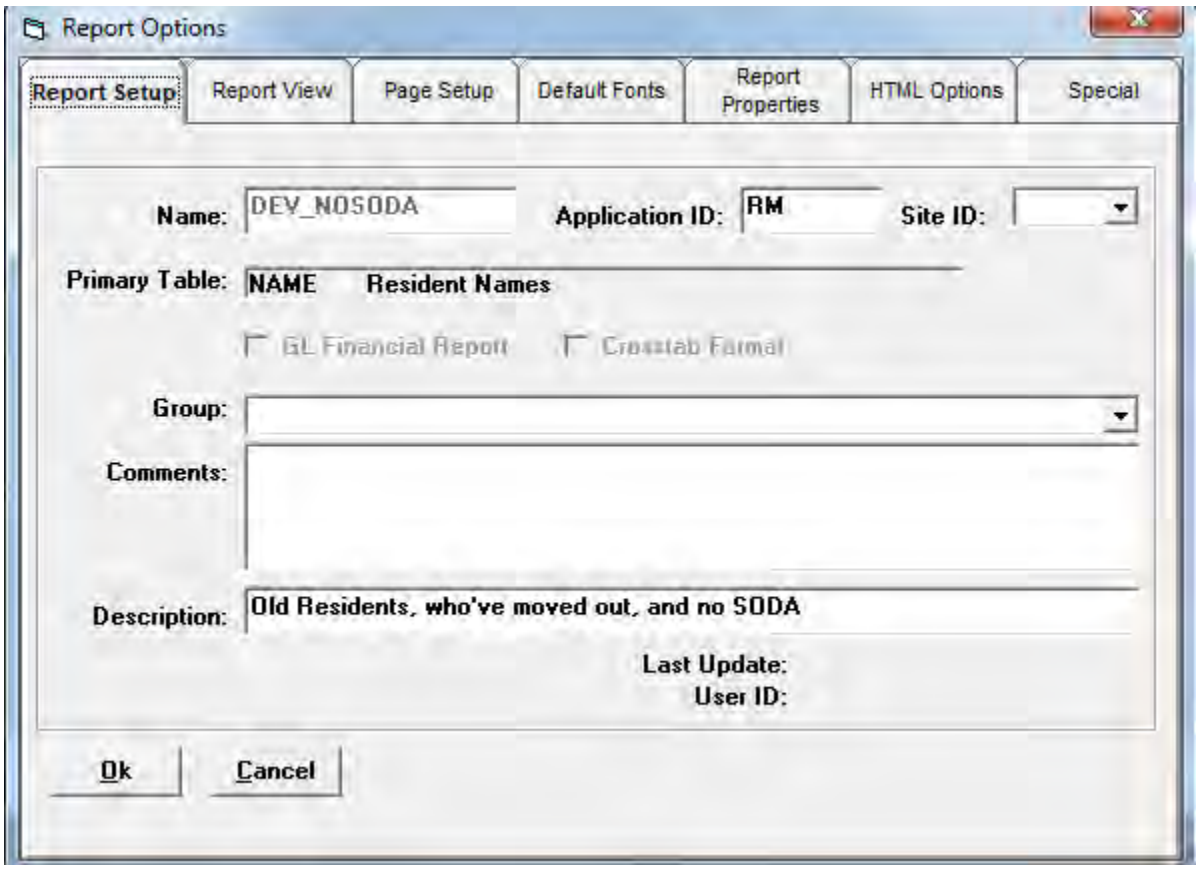


Now you can proceed to formatting and web enabling.

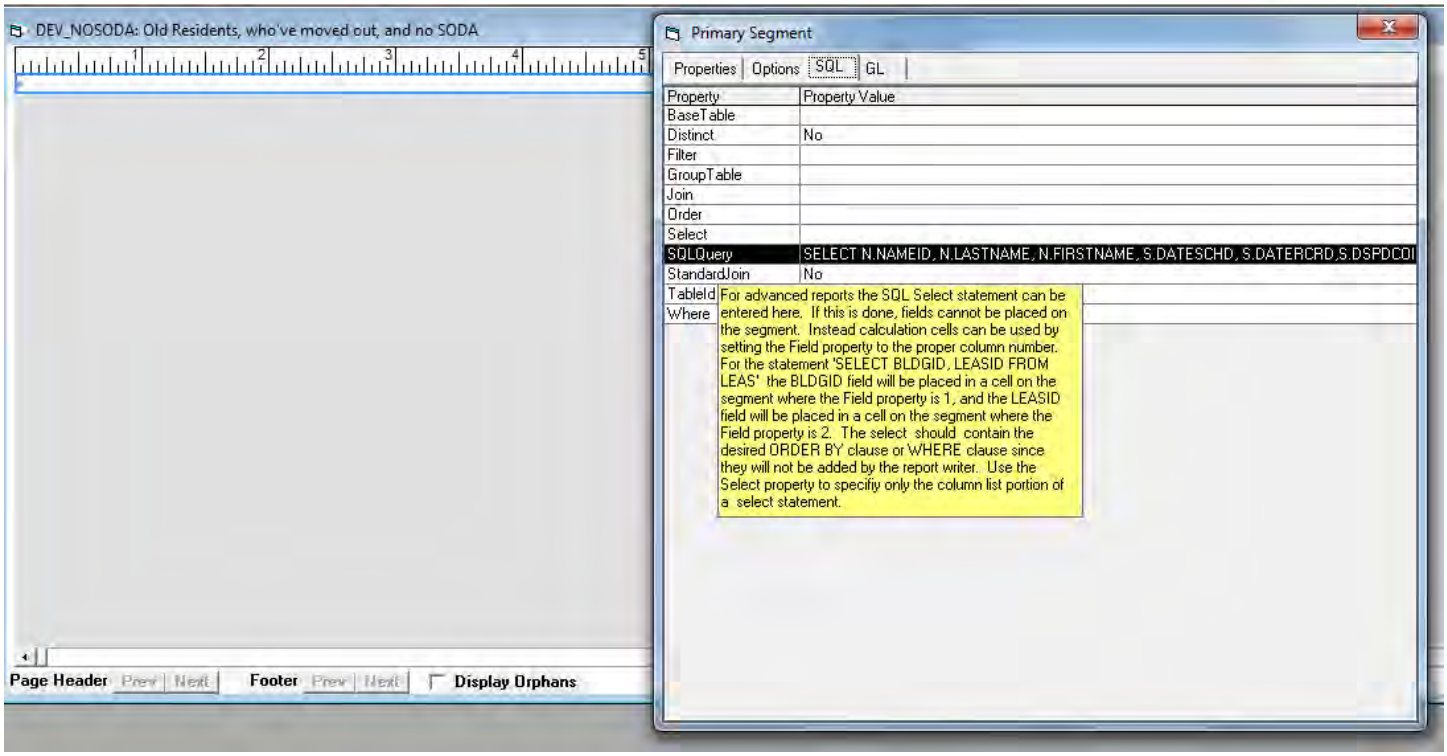
Now, let's turn a query into a report.

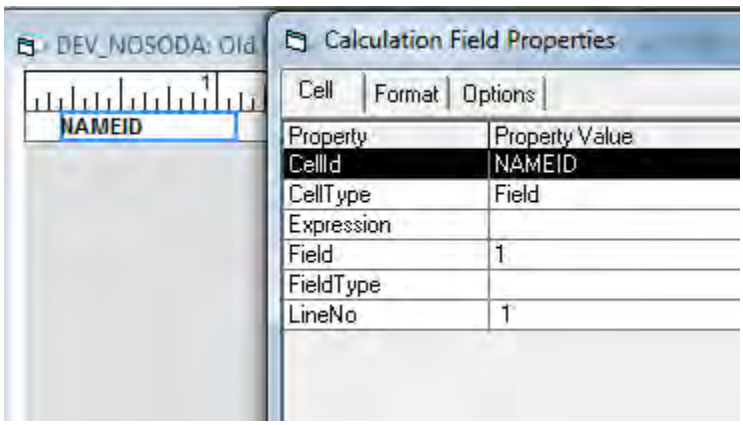
Use this query to find Old Residents, who have moved out, and a SODA does not exist, but it should.

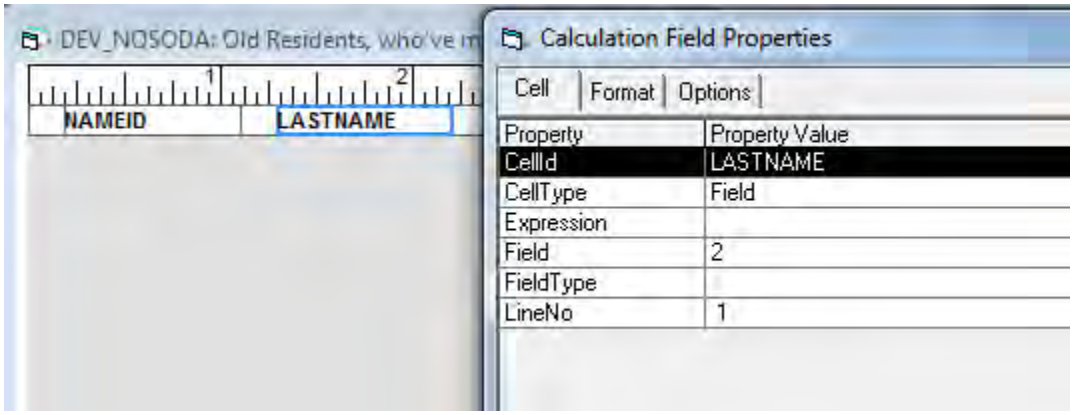
SELECT N.NAMEID, N.LASTNAME, N.FIRSTNAME, S.DATESCHD, S.DATERCRD,S.DSPDCODE FROM NAME N, SCHD S, RMLEASE R WHERE N.NAMEID = S.NAMEID AND N.RMPROPID=R.RMPROPID AND N.RMBLDGID=R.RMBLDGID AND N.UNITID=R.UNITID AND N.RMLEASE=R.RMLEASE AND N.TYPE='R' AND N.STATUS = 'O' AND R.VACATE IS NOT NULL AND N.NAMEID NOT IN(SELECT NAMEID FROM SODA) AND S.ACTION = 'MOVE OUT' AND S.DSPDCODE ='D' AND S.CODE='C' ORDER BY NAMEID



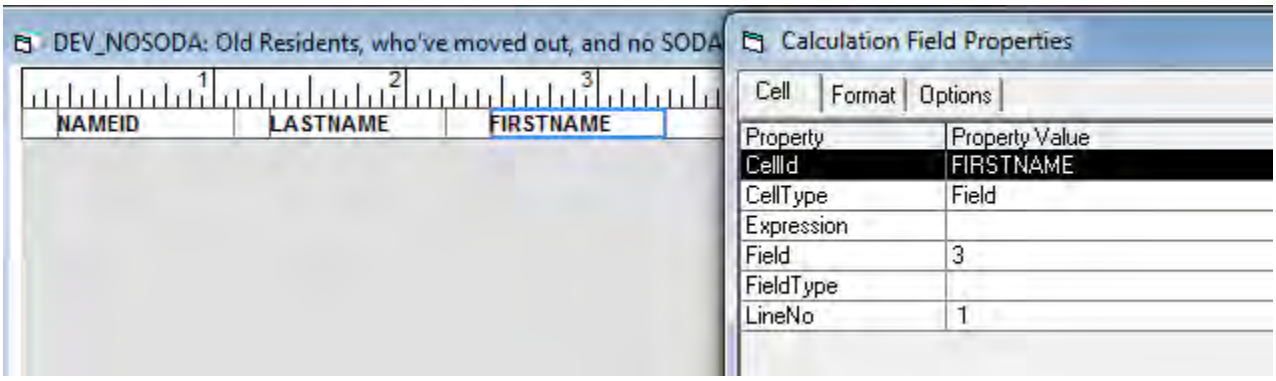
Advanced Report Design - RM

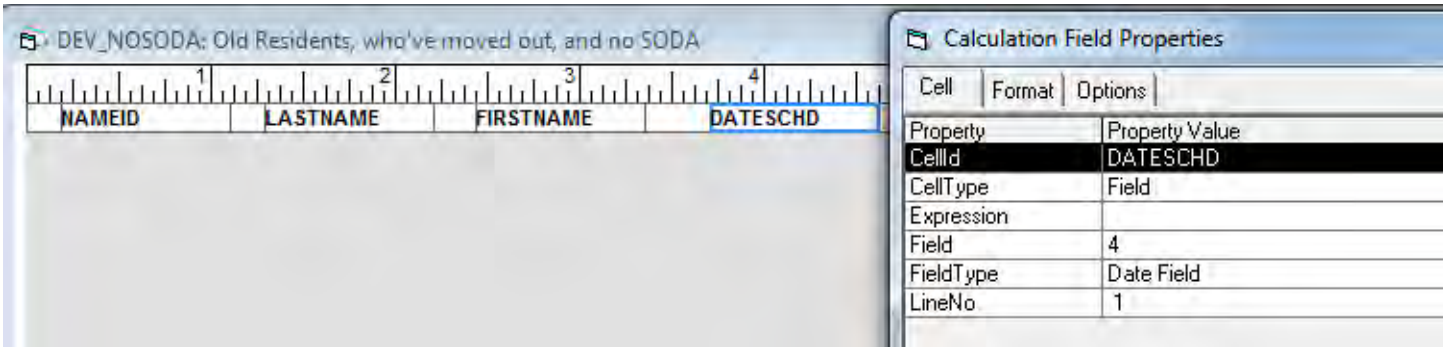


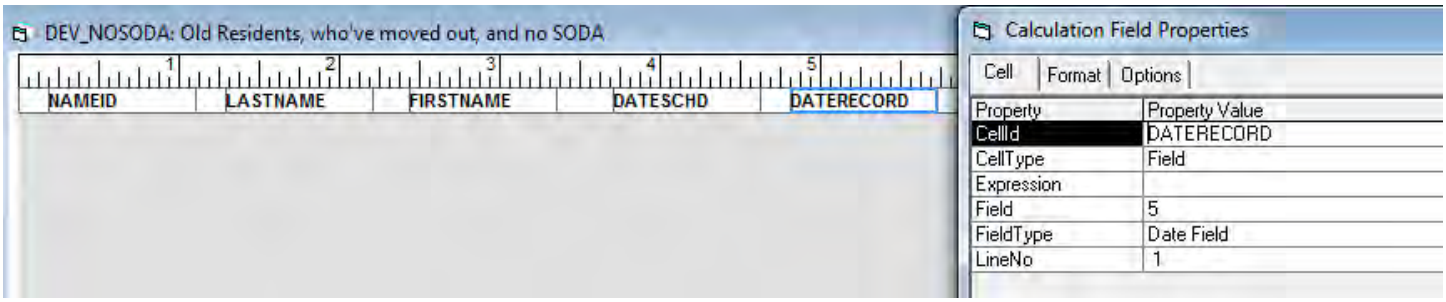


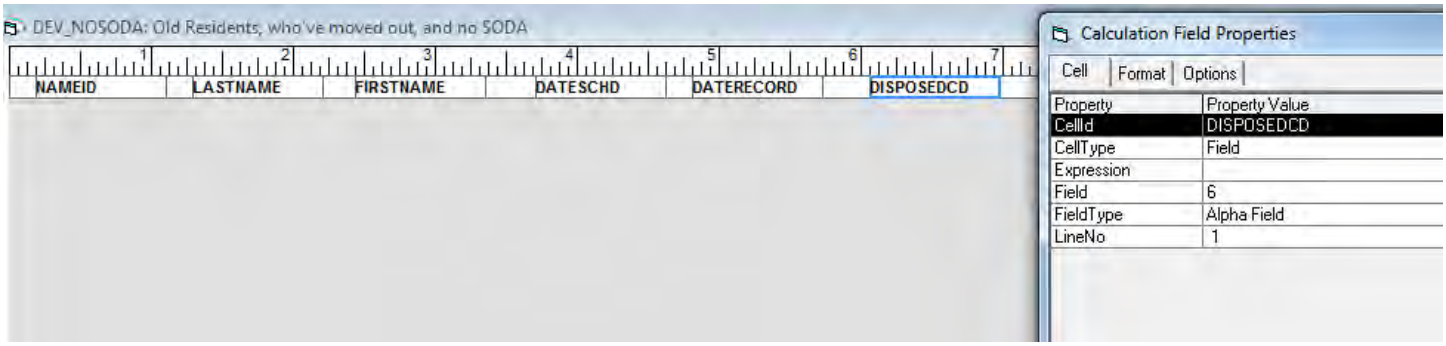


Advanced Report Design - RM

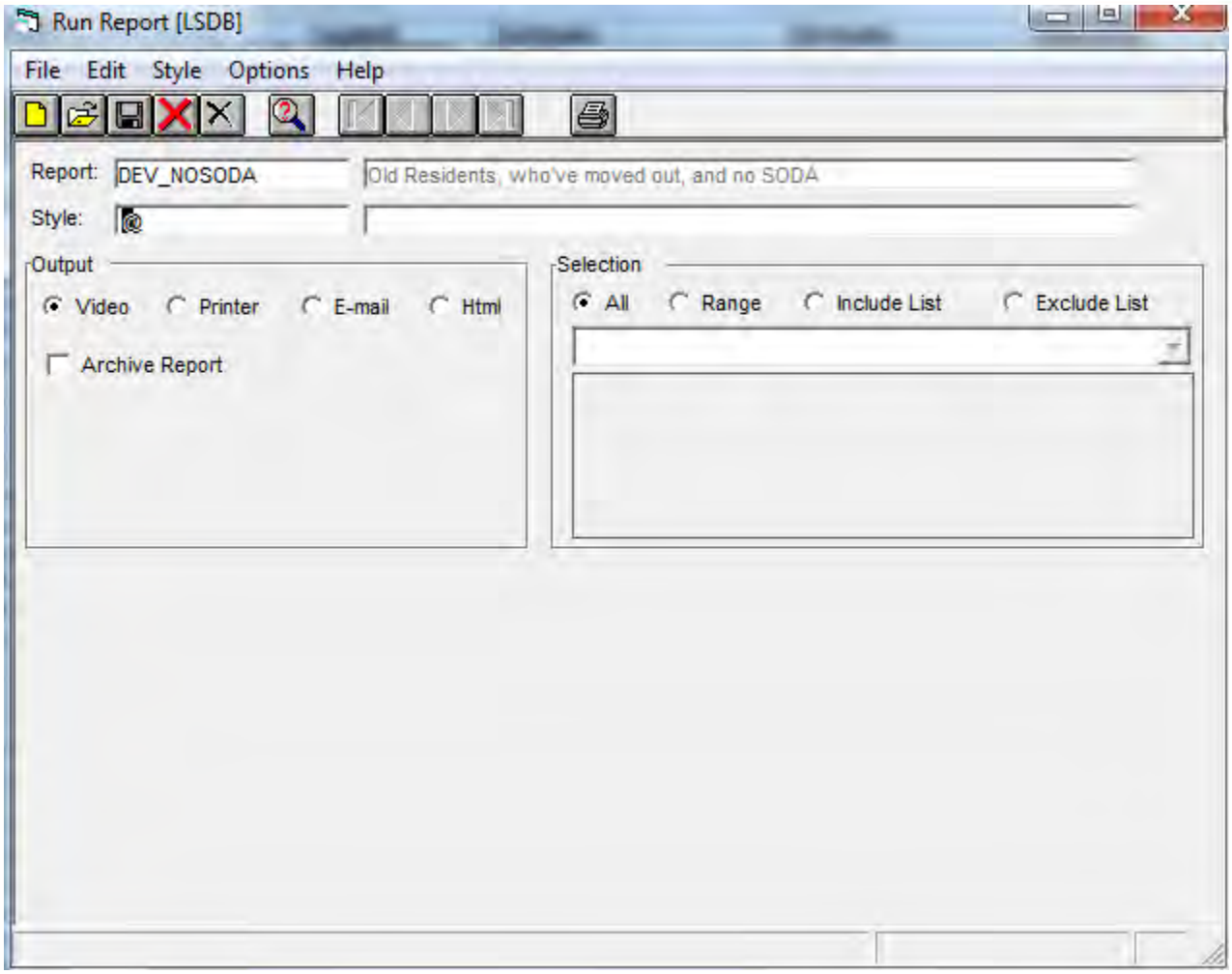








Advanced Report Design - RM



0000000004	Smith	Marsha	2/18/2008	3/19/2008	D
0000000020	Wilkerson	Caitlin	2/15/2008	3/21/2008	D
0000000022	Choi	Katherine	2/15/2008	3/21/2008	D
0000000026	Ellis	Jason	1/31/2008	3/21/2008	D
0000000027	Scheurich	Garaldine	2/10/2008	3/21/2008	D
0000000030	Frazier	Kimberly	2/27/2008	3/21/2008	D
0000000036	Lindsay	York	2/14/2008	3/21/2008	D
HO00000055	Mooney	Owen	1/31/2008	3/19/2008	D
HO00000059	Rebac	Angelene	2/2/2008	3/20/2008	D
HO00000061	Smith	Jason	2/29/2008	3/21/2008	D
HO00000068	Barrow	Bryan	1/24/2008	3/20/2008	D
HO00000074	Holt	Amy	2/28/2008	3/20/2008	D
HO00000080	Murphy	Santos	2/22/2008	3/20/2008	D
HO00000082	Swain	Don	3/11/2008	3/20/2008	D
HO00000089	Painter	Kristen	2/4/2008	3/20/2008	D
HO00000121	Smits	Patricia	12/31/2007	3/20/2008	D
HO00000202	McKelvy	Juan	12/31/2007	3/20/2008	D
HO00000214	Chelette	Daniel	11/30/2007	3/20/2008	D
HO00000222	Hernandez	Jacqueline	12/31/2007	3/20/2008	D
HO00000228	Lopez	Jose-Jesus	12/31/2007	3/20/2008	D
HO00000232	Ramirez	Kenneth	11/30/2007	3/20/2008	D
HO00000234	Owens	Alma	11/30/2007	3/20/2008	D
HO00000242	de-Jesus	Jose	12/31/2007	3/20/2008	D
HO00000252	Ortiz	Jerry	11/30/2007	3/20/2008	D
HO00000254	Arceo	Victor	11/30/2007	3/20/2008	D
HO00000261	Goodlin	Wendolin	12/31/2007	3/20/2008	D
HO00000271	Ward	Margarito	11/30/2007	3/20/2008	D
HO00000273	Ruvalcaba	Liniese	11/30/2007	3/20/2008	D
HO00000277	Klugman	Vital	12/31/2007	3/20/2008	D
HO00000297	Ayala	William	12/31/2007	3/20/2008	D
HO00000317	Resendiz-Lopez	Ricardo	12/31/2007	3/20/2008	D
HO00000337	Settles	Maria	1/31/2008	3/20/2008	D

Again, add a Page Heading and web enable.

Here are a few more queries that are written that could be turned into reports:

To find orphan RMLEASE records and their matching RMRECC records:

SELECT * FROM RMRECC WHERE EXISTS (SELECT * FROM RMLEASE WHERE NOT EXISTS (SELECT * FROM NAME WHERE NAME.RMPROPID=RMLEASE.RMPROPID AND NAME.RMBLDGID=RMLEASE.RMBLDGID AND NAME.UNITID=RMLEASE.UNITID AND NAME.RMLEASE=RMLEASE.RMLEASE) AND RMLEASE.RMPROPID=RMRECC.RMPROPID AND RMLEASE.RMBLDGID=RMRECC.RMBLDGID AND RMLEASE.UNITID=RMRECC.UNITID AND RMLEASE.RMLEASE=RMRECC.RMLEASE)

SELECT * FROM RMLEASE WHERE NOT EXISTS (SELECT * FROM NAME WHERE NAME.RMPROPID=RMLEASE.RMPROPID AND NAME.RMBLDGID=RMLEASE.RMBLDGID AND NAME.UNITID=RMLEASE.UNITID AND NAME.RMLEASE=RMLEASE.RMLEASE)

Questions and Answers

THANK YOU!!

Continue the Experience …….

Advanced Report Design – Accounting (W01)

Wednesday, 9 a.m. – 10:30 a.m., Studio 1/2

or

SQL for CM (W08)

Wednesday, 9 a.m. – 10:30 a.m., Mardi FGH

MRI Education Services

Any SQL Trainings

Any WebDesign Trainings

Advanced ReportDesign Trainings