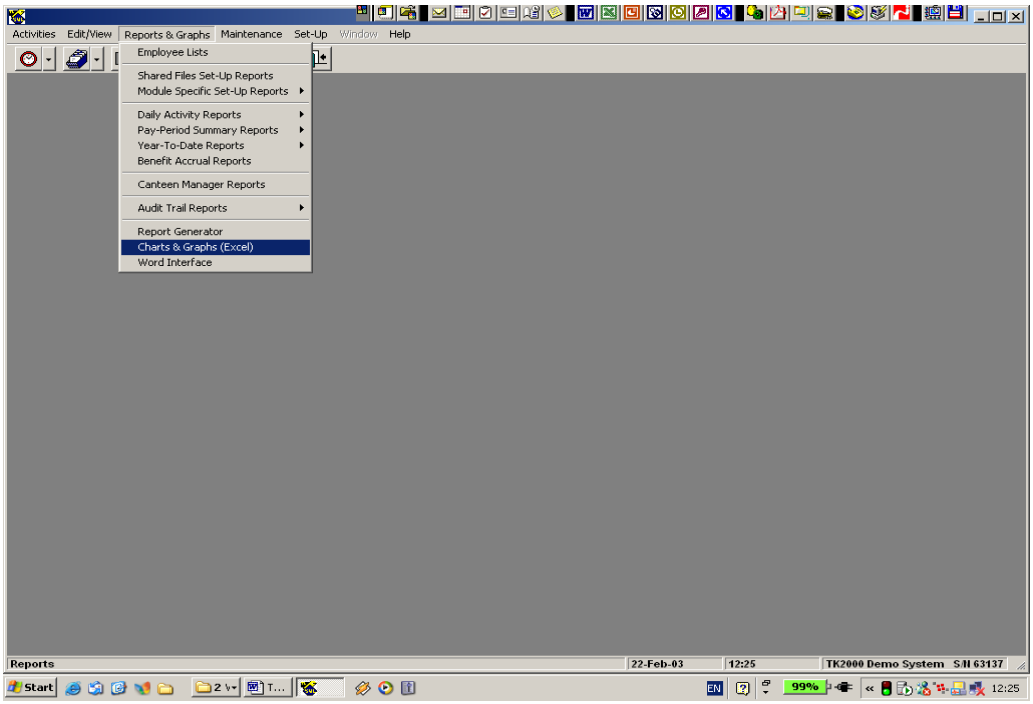
Preface:
TimeKeeper-SQL is a full-featured OLE 2.0 client. This means that you can export your TimeKeeper-SQL data to spreadsheet applications and graphics packages. Below you will find detailed specific instructions about exporting your TK data to Excel and using Excel to generate graphs and charts.

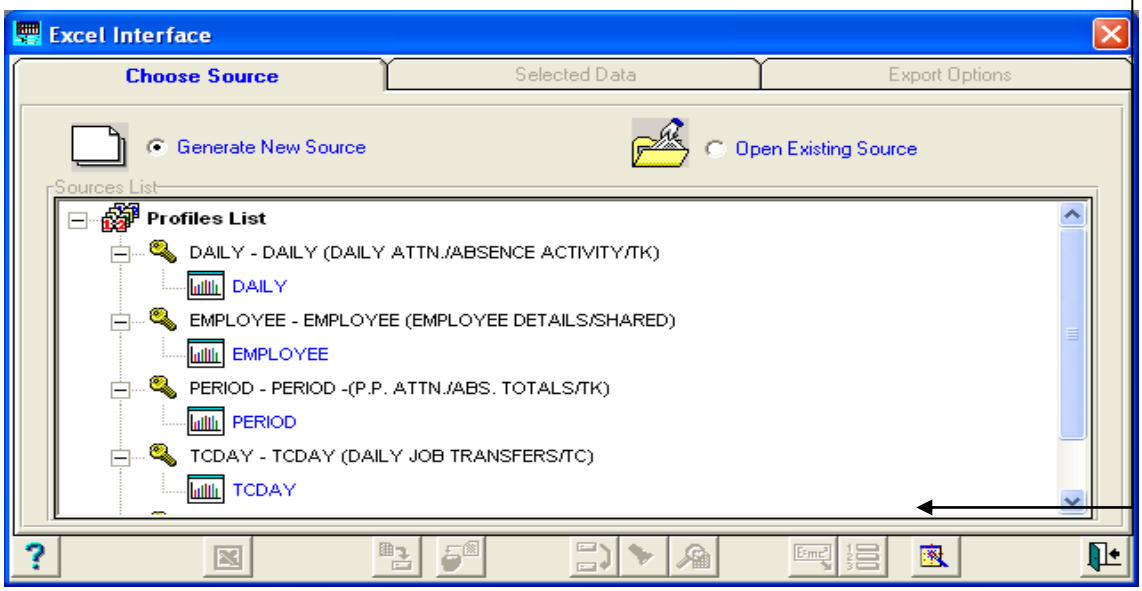
Step 1: Accessing the Excel Interface program.

Select the Reports & Graphs option on the top Menu Bar and then select Chart & Graphs (Excel).

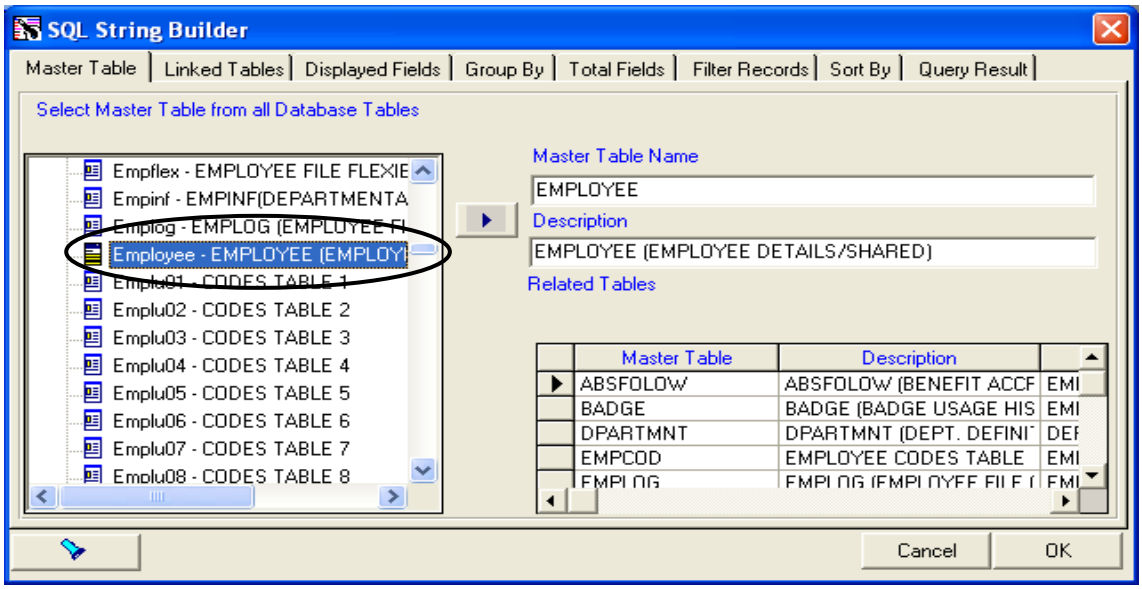


Step 2: Selecting a New or Existing Data Source.

After selecting Chart & Graphs (Excel), you will see the following screen. You can then choose to either create a new data source or open an existing one. Select the "Generate New Source" option and click on the "Create / Open Source".



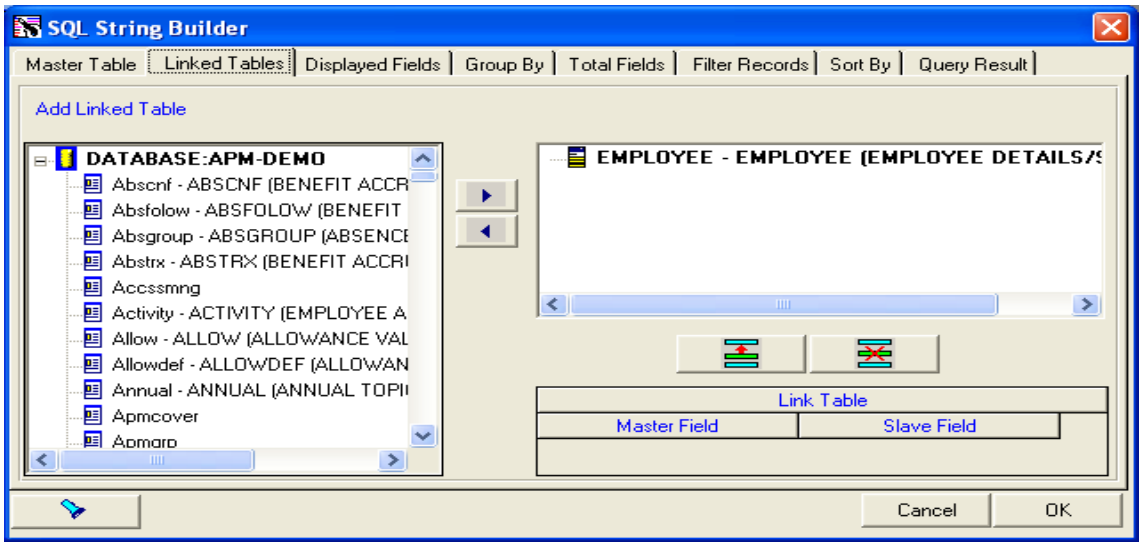
Step 3: Selecting the Primary ("Master") table/file.
You will now see a screen with several tabs (Master Table, Linked Tables, Displayed fields etc.). Each tab covers a different step/topic involved in the process of creating a complete "export profile". Some steps are mandatory while others are optional. At the end of the process, the "export profile" you create can be saved and retrieved later on when needed for re-use.



On the left side of the Master Table screen, you will see a list of all the available tables/files in TK-SQL. Select a file from that list by highlighting it and then clicking on the ▸ button.

The right side of the screen will automatically display a list of all "linked" tables/files. These are automatically "available" for all export functionality. If your "profile" requires a link to a table/file that is NOT automatically linked, you can specify additional linked tables "manually". To manually link a file select the "Linked Tables" tab.

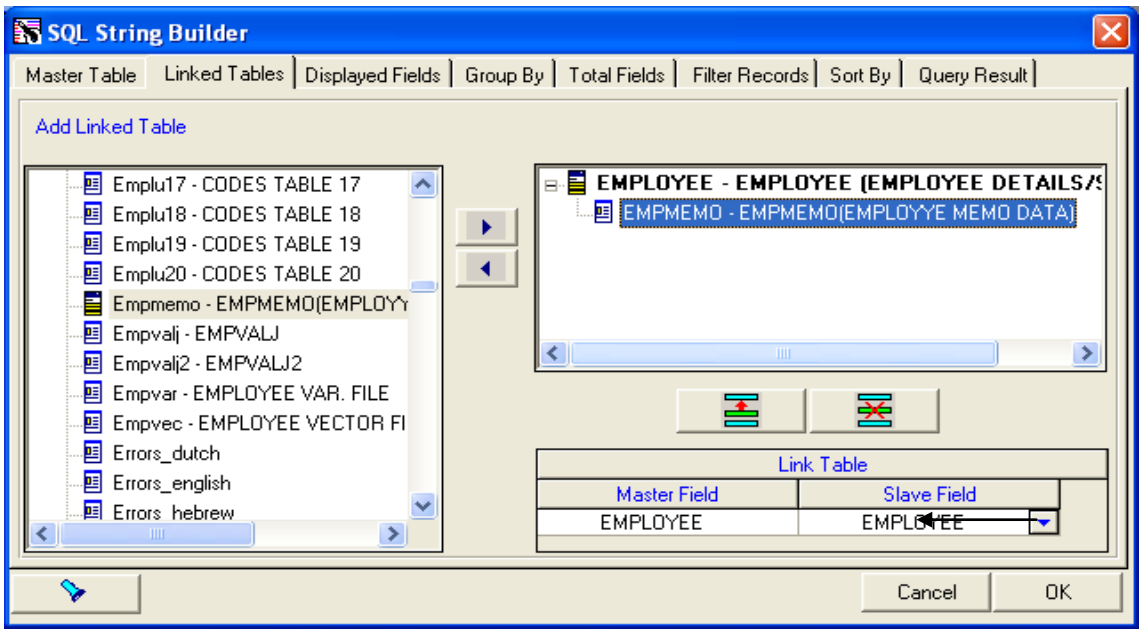
Step 4 (optional): Specifying additional linked files/tables.
Once you select the "Linked Tables" tab, the following screen will be displayed:



Select the file you wish to (manually) link by highlighting it and clicking on the ▸ button. After you have added the table/file and it appears on the right side of the screen, highlight the file/table on the right side and click on the

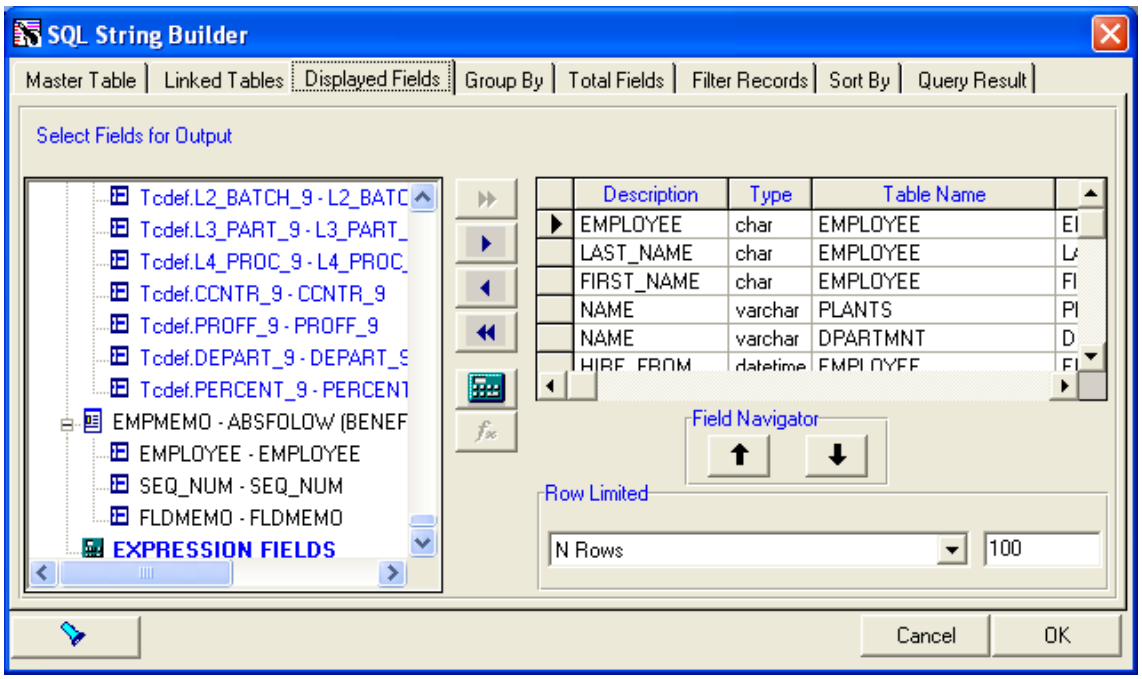
Add Linkage button  . You will then need to specify the "linkage fields": the Master Field is the Key field in the Master file/table and the Slave Field is the "related" Key field in the file you are linking to.

The screen below displays the results of manually linking the Employee Memo (EMPMEMO) table/file.



Step 5: Specifying the Displayed fields.

After you have completed specifying the Master table and all Linked Tables (whether automatic or "manual") you will need to specify the fields you wish to "display" (or export). Select the Displayed Fields tab. The following screen will be displayed.



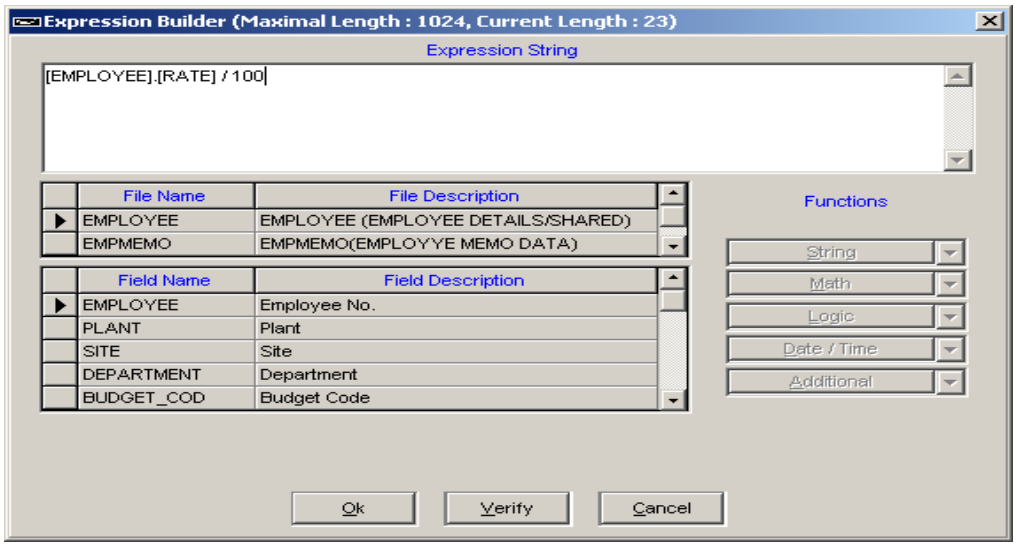
You can now:

- Select ALL the displayed fields by clicking on the ⏩ button.
- Remove ALL the (previously) selected fields by clicking on the ⏪ button.
- Select and remove individual fields by highlighting them and then clicking on the ▶ button and the ◀ button respectively.
- Change the order in which the selected fields appear by highlighting the relevant field and then moving it "up" and "down" by clicking on the ⬆ button and the⬇ button respectively
- Create a formula (using the TK's expression generator) by clicking on the calculator button.
- Select number of rows by specifying the "rows limited" and a value.

How to create a formula using the expression Generator?

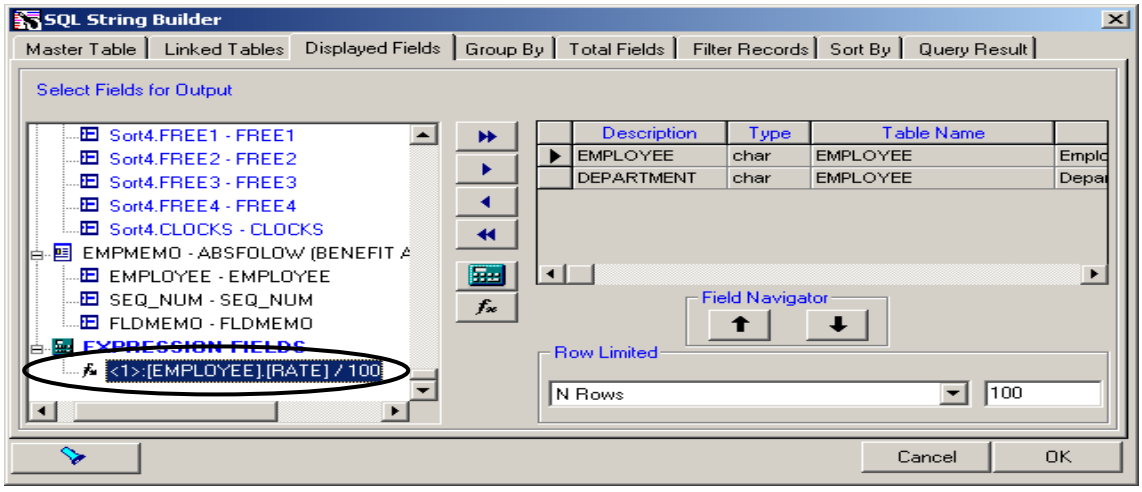
a. Hit the Expression (Calculator) button

b. Specify the formula/expression you wish to add to the query

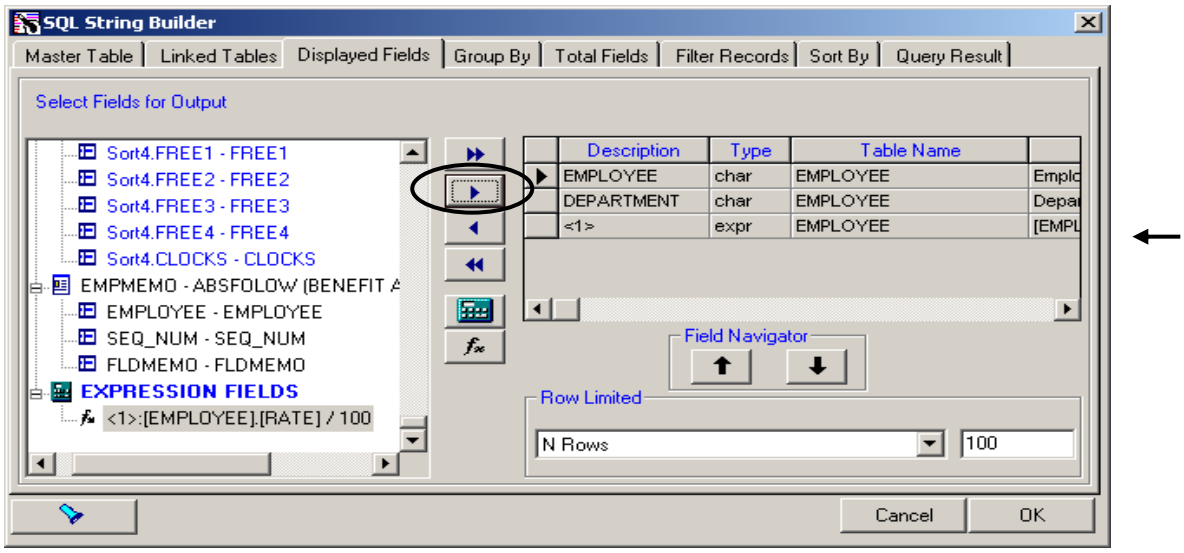


c. Verify and save the formula

d. Scroll to "Expression Fields" section:



e. And add the expression to the displayed fields using the ▶ button.



Step 6 (optional): Specifying the "Group By" and "Total" fields.

"Grouping by" option is used for displaying a group of items having a "common denominator" in the same line e.g. total of employees per department, total of products per shipment, total of hours per site etc.

The following examples are given to illustrate the group by option:

Group by IS NOT used

Employee No.	Department
1023	Electrical
1043	Electrical
1133	Electrical
1141	Electrical
1144	Electrical
1599	Electrical
1006	Painting
1016	Painting
1017	Painting
1021	Painting

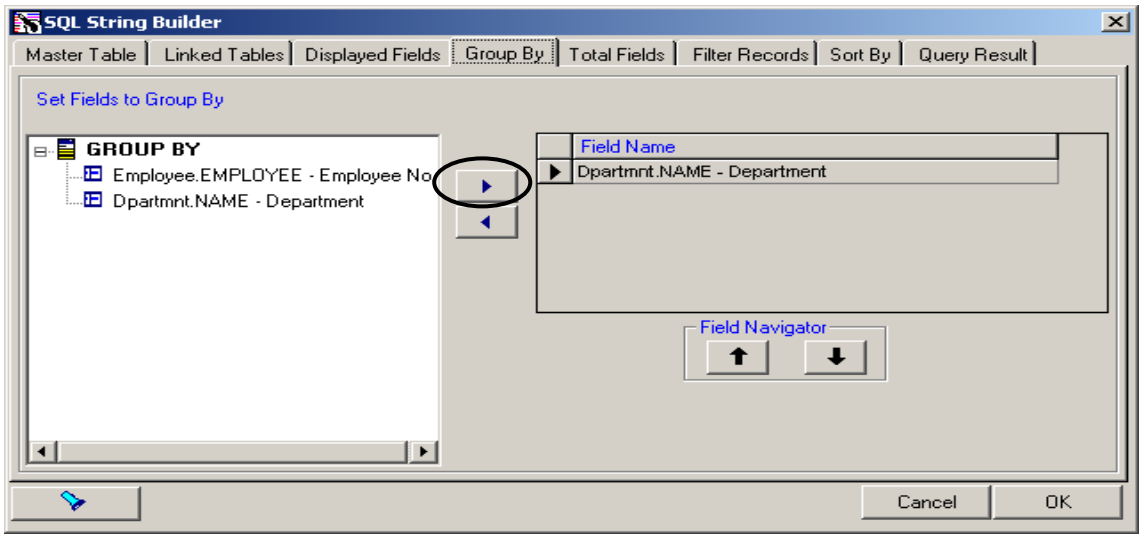
Group by IS used

Employee No.	Department
2	*
5	Assembly
6	Electrical
6	Painting
4	Quality Assurance

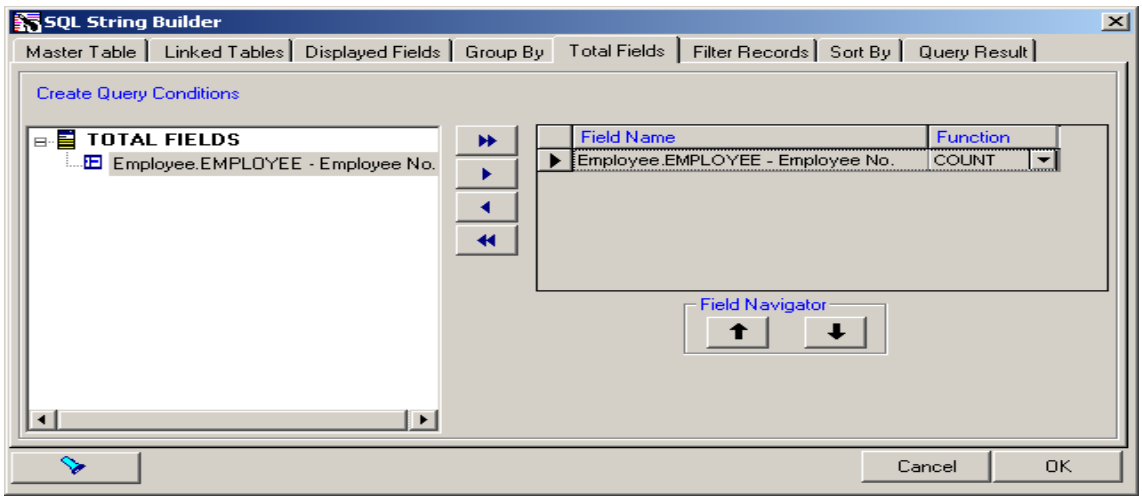
Grouping however has a meaning ONLY when using totals. How else can you show several items in one line without counting or summarizing? Only a combination of **summary** (e.g. labour cost per product) **count** (e.g. employees by department) or additional functions as **Average**, **Maximum** and **Minimum** Value will make grouping a valid option.

How to create grouping?

Firstly, select the field you wish to group by:



Then, set the totals accordingly:



In this example, displaying **employees by department**, we have chosen the **COUNT** function. In addition, the following functions are available:

SUM Returns the sum of a numeric expression evaluated over a set

MAX Returns the maximum value in the expression.

MIN Returns the Minimum value in the expression.

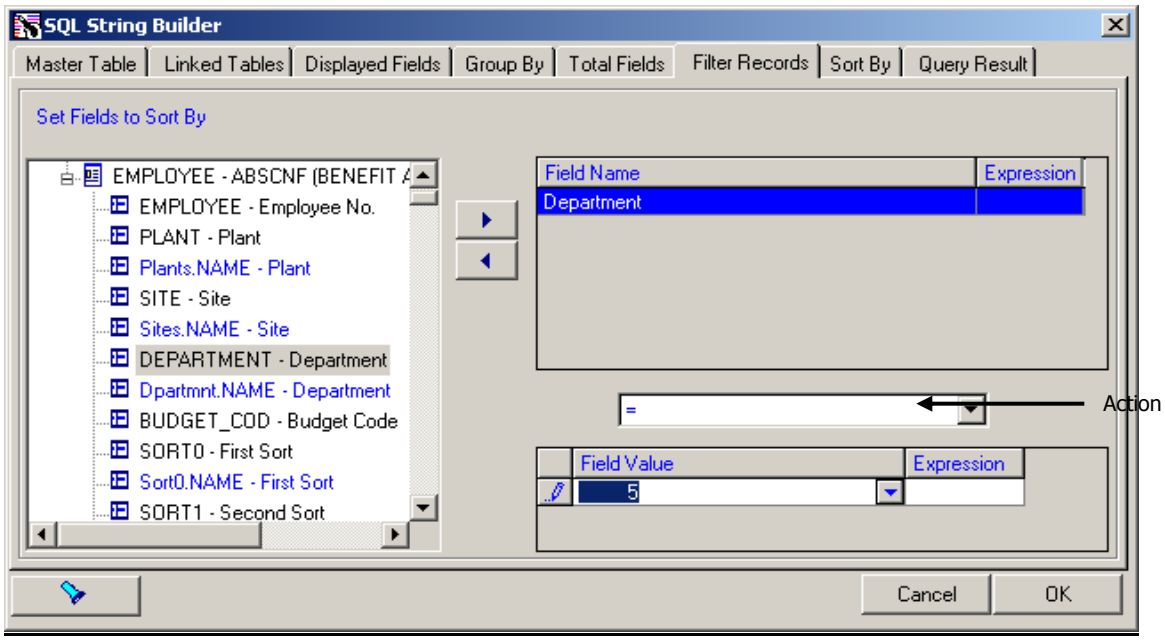
AVG Returns the average of the values in a group. Null values are ignored

COUNT Counts the total number of rows that meet the qualifications of the query

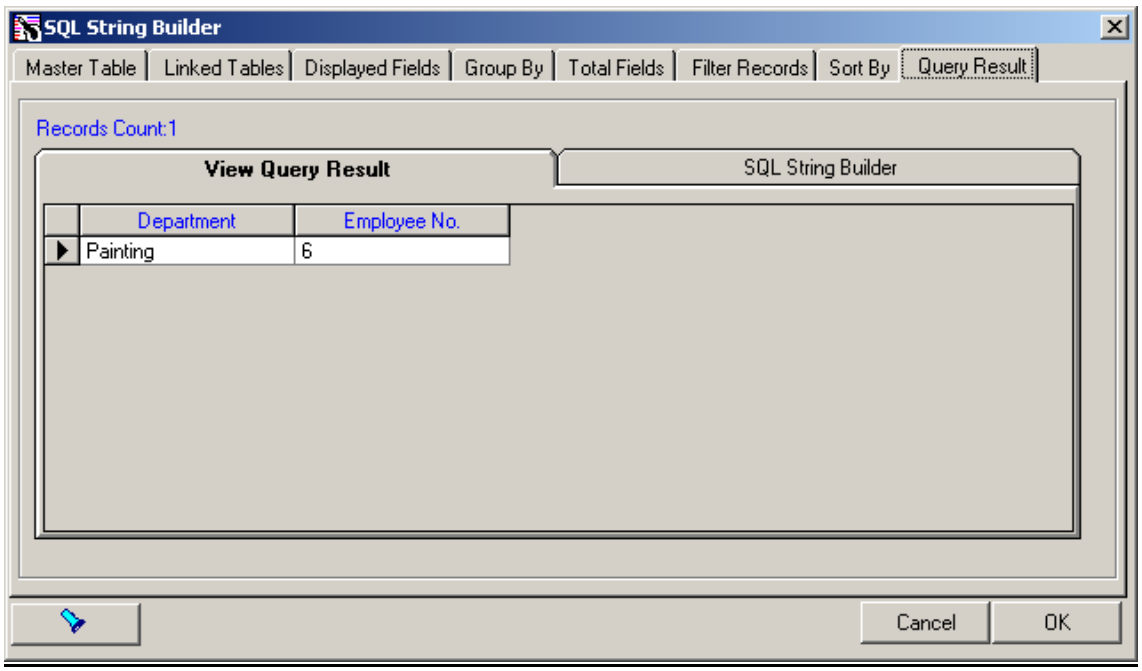
Step 7 (optional): Filtering records

Select the records you wish to filter by highlighting it and clicking on the ▸ button. After you have added the required field and it appears on the right side of the screen, set the "Action" (e.g. Equal to. Greater Than, less than, between etc) AND the field value.

In the following example, only department 5 (= Painting) will be displayed:

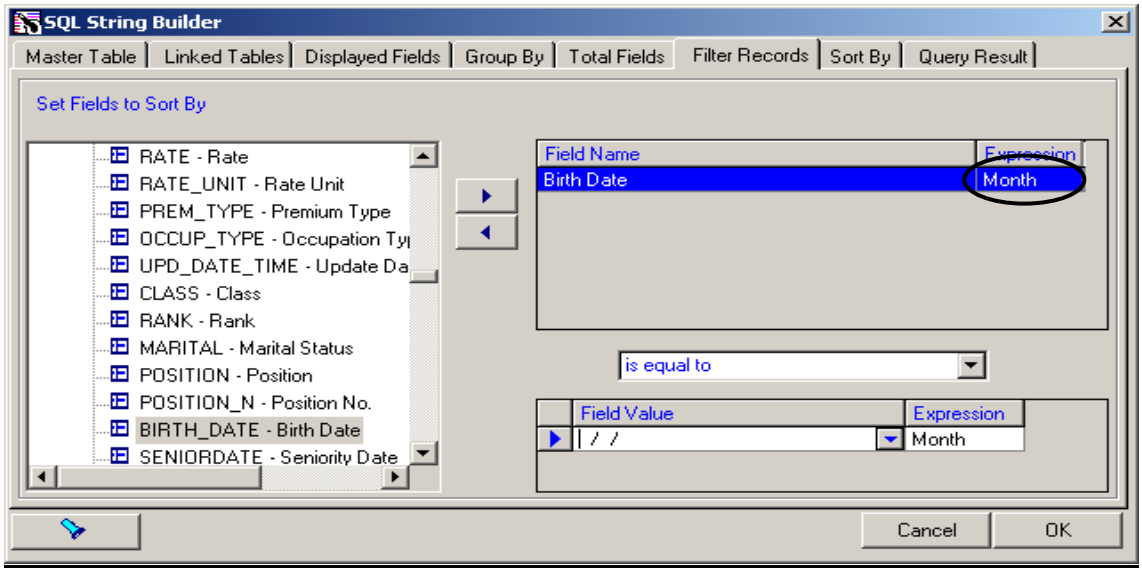


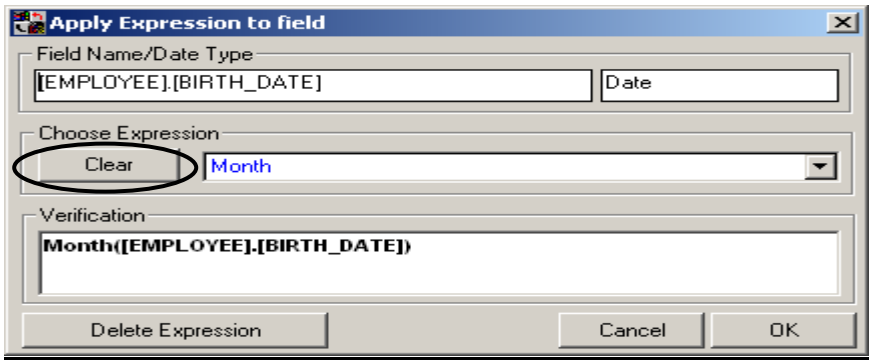
Getting Results:



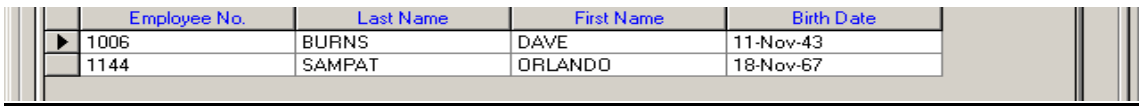
Another example for filtering data in a query is displaying a group of employees who have a birthday in a given month. We will then create a query displaying employee names and birthday, and set the filter as follows:

Select the records you wish to filter by highlighting it and clicking on the ▸ button. After you have added the required field and it appears on the right side of the screen, set the "EXPRESSION":





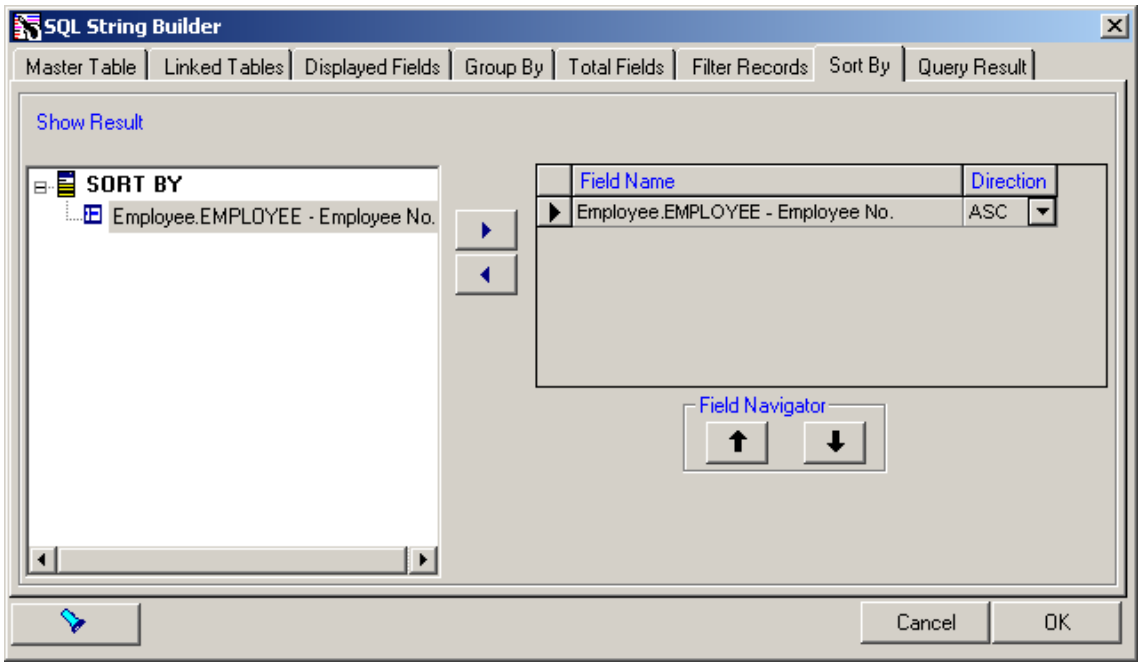
Query Results



Employee No.	Last Name	First Name	Birth Date
1006	BURNS	DAVE	11-Nov-43
1144	SAMPAT	ORLANDO	18-Nov-67

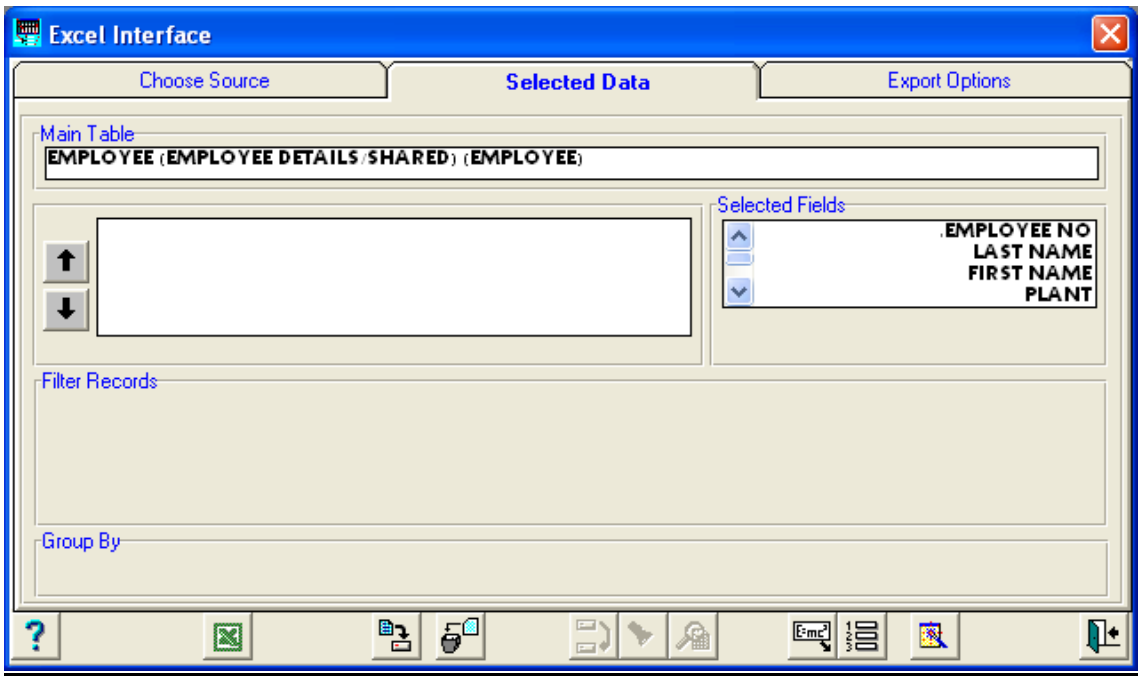
Step 8 (optional): Sorting By

Select the records you wish to ORDER by highlighting it and clicking on the ▸ button. Once you have added the required field and it appears on the right side of the screen, you will be able to set the sort i.e. Ascending or Descending:



Step 9: Specify the export Options

Once the query is displayed correctly in the "query result", hit the OK button. The following screen will appear:

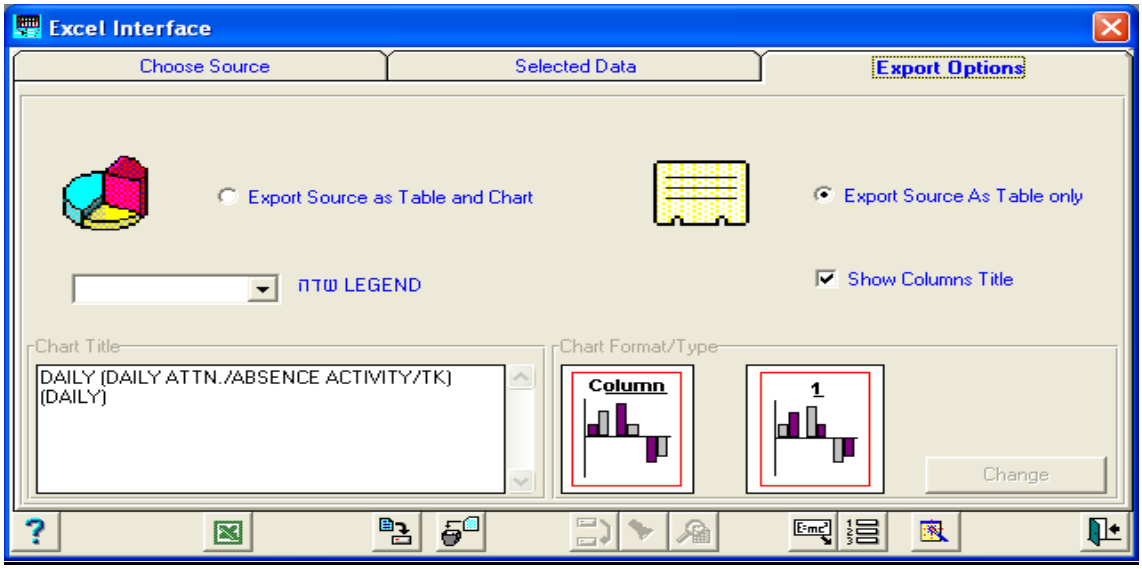


You can now:

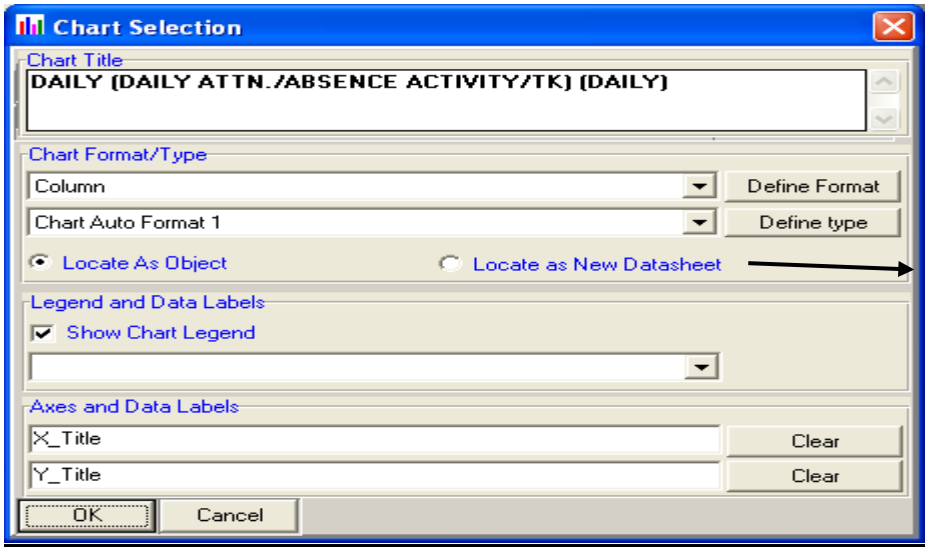
- Proceed to Export options by selecting the export option tab
- Specify a query selection e.g. running the query for a date range, plant, site department etc.
- Change your selections by clicking the change selections tab

Step 10: Choosing a chart

If you wish to create a chart – select "Export source as a table and chart"
If you wish to export to EXCEL Table – select "Export source as a table only"



If "Export source as a table and chart" has been selected, use [Change] button to select the chart format (e.g. Bar, pie, 3D Bar, Area, etc) and the type:

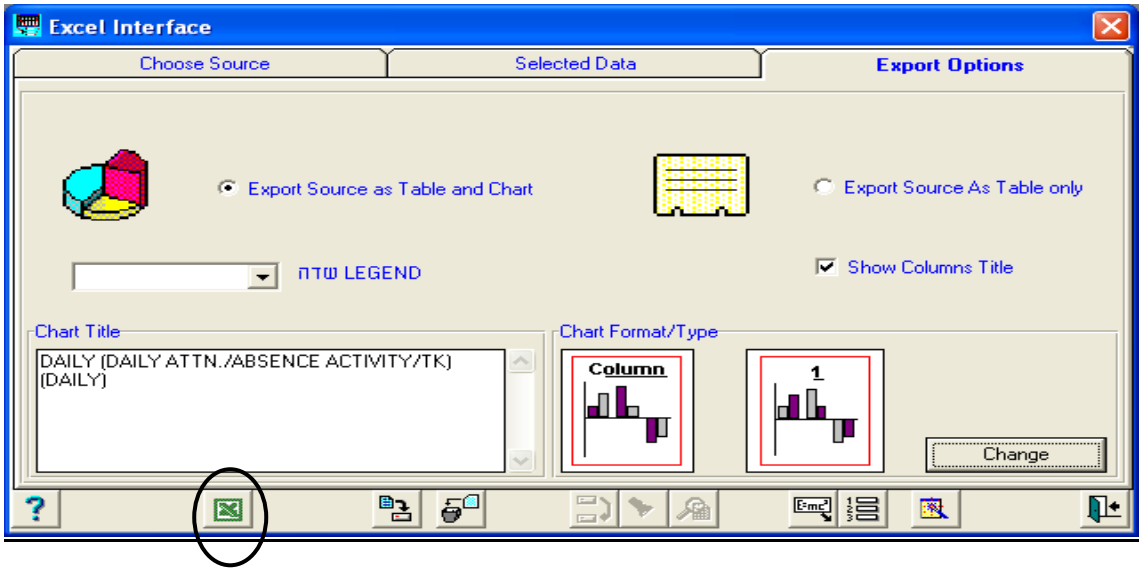


Locate as an object
Create the chart in the same spreadsheet where the query results are displayed.

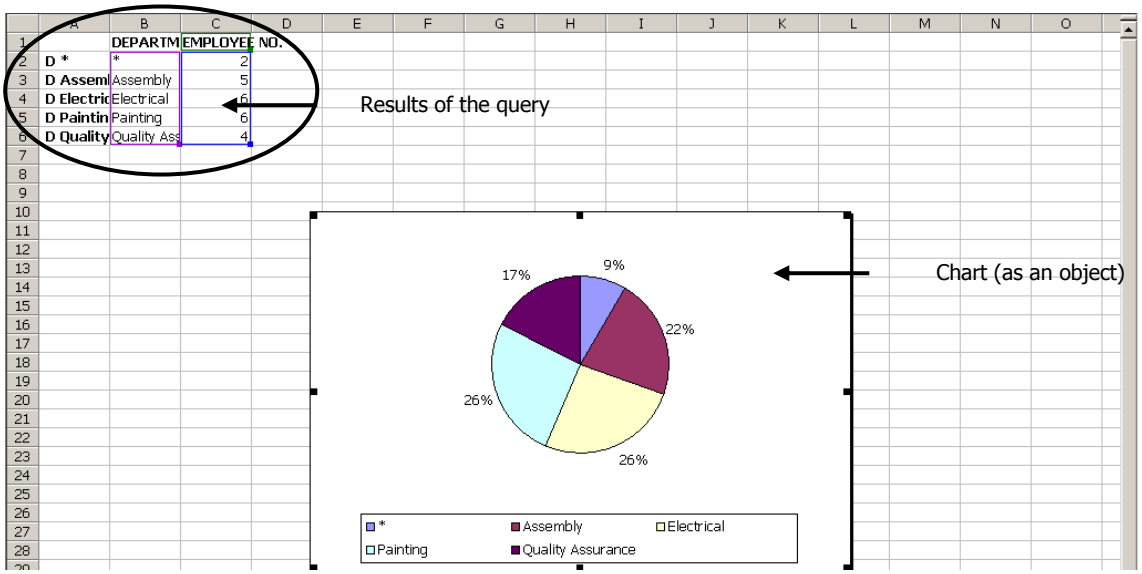
You may also specify the data labels X Axes and Y Axes. Once all the required information has been selected, hit the OK button.

Step 11: Creating the chart in EXCEL

Once chart type has been selected, you may export to EXCEL using the button:



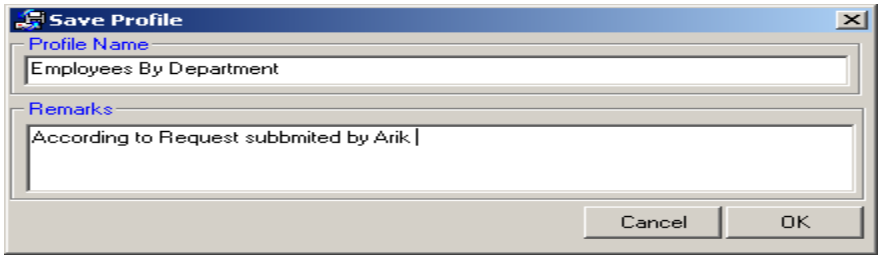
Getting Results:



As requested, a pie chart has been created according to the query results. The results of query will also be displayed in the same spreadsheet. If you wish to create the graph in a separate spreadsheet (i.e. one for the query results and one for the graph), set the chart format type to "Locate as a new datasheet".

Step 12: Saving the export definitions (Query and Chart)

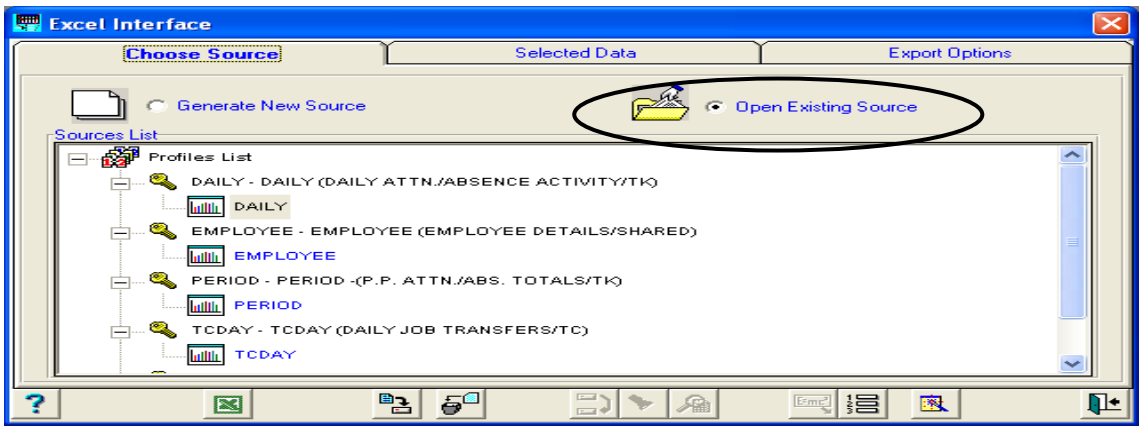
You may save the export definitions (query, selections and the chart type) by clicking the button, and specify the export (profile) name:



Note: There is a MAJOR difference between **changing the export definitions in TimeKeeper** to **saving the spreadsheet itself in MS-EXCEL**. Saving the export definitions in MS-EXCEL stores the END-RESULT only (as is!), while saving of the profile stores the entire process so you will be able to (i.e. dynamically) run the same query for a current, previous and future use.

For Opening saved profiles

Select "Open Existing Source"



And choose the profile you wish to load: