

QueryCalc

ADDITIONAL DOCUMENTS

A Very Quick Report Step-by-step

*or how to write
your first report in
QueryCalc
in five minutes
or less*

A VERY QUICK REPORT, STEP-BY-STEP

0. Sign onto the practice account **USER.AICS**. Supply any necessary passwords.
1. Type **QC** to get QueryCalc. Press **RETURN** to bypass the instructions screen. You are now in QueryCalc proper.
2. Type **@OPENDB QCDEMO**
Type **FRONT** in response to password question
You now have database open.

Type **@SHOWDB** to show you all of the databases you have open. You should see QCDEMO listed there. If it's not, something went wrong and we must try step 2 again.

Press **RETURN** to leave @SHOWDB

3. Move the cursor to cell B5, type: "**Category**
4. Move to C5, type: "**1983**
5. Move to D5, type: "**1984**
6. Move to B6, type: "----- (39 "-"s)
7. Move to B7, type: "**501**
8. Move to B8, type: "**502**
9. Move to B9, type: "**503**
10. Move to C7, type: **@sum of amount when category is [b7] and date is 830000,840000!**

(Choose the dataset INVOICES when the choice is presented. The []'s around b7 indicate a 'window' back onto the spreadsheet. The value of category we'll look for will be that which is in cell b7. Type the entry exactly as it appears above. The syntax will become more familiar as you read the reference manual.)

11. Move to D7, type: **@sum of amount when category is [b7] and date is 840000,850000!**

(Repeat the instructions of step 10.)

12. Without moving, type: **/rep c7:d7>c8:c9**

13. Move to C10, type: "----- (27 "-"s)

14. Move to C11, type: **sum(c7:c9)!**

15. Without moving, type: **/rep c11>d11**

16. Type: **!!a**

*(Type R or C to the request: row or column recalculation?
This particular report has no order dependency, thus either
answer is satisfactory.)*

17. Type: **/print a s**

18. Type: **/printeq a s**

19. Type: **/save** (your choice of name)

*(I saved my version of this program as QUICK. You should
find it in the catalog when you type: /CAT).*

20. The report is now created, printed and saved. To review what we did in each of these steps: (1) we labeled the screen, and listed the categories we wished to summarize. (2) We typed in query questions for the two years of interest. (3) We replicated the questions down both columns, simultaneously adjusting the cell references. (4) We finished up the report with some column sums. (5) We then recalculated the report to get all new data, printed the report and its equations out to the system printer and saved it. Every report, no matter how complex, repeats these same basic steps.

Category	1983	1984
501	6,093.89	7,541.08
502	1,599.66	1,617.29
503	645.00	952.94
	8,338.55	10,111.31

*What you should see on your terminal's screen and on the paper
printout once you've completed typing in your report.*

A	a	b	c	d	e
1					
2					
3					
4					
5		Category	1983	1984	
6		-----			
7		501	(Ac7)	(Ad7)	
8		502	(Ac8)	(Ad8)	
9		503	(Ac9)	(Ad9)	
10			-----		
11			(Ac11)	(Ad11)	
12					
13					
14					
15					

Equations for Page A

(Ac7): USING QCDEMO.INVOICES, SUM OF AMOUNT WHEN CATEGORY IS
[B7] AND DATE IB 830000,840000

(Ac8): USING QCDEMO.INVOICES, SUM OF AMOUNT WHEN CATEGORY IS
[B8] AND DATE IB 830000,840000

(Ac9): USING QCDEMO.INVOICES, SUM OF AMOUNT WHEN CATEGORY IS
[B9] AND DATE IB 830000,840000

(Ac11): SUM(C7:C9)

(Ad7): USING QCDEMO.INVOICES, SUM OF AMOUNT WHEN CATEGORY IS
[B7] AND DATE IB 840000,850000

(Ad8): USING QCDEMO.INVOICES, SUM OF AMOUNT WHEN CATEGORY IS
[B8] AND DATE IB 840000,850000

(Ad9): USING QCDEMO.INVOICES, SUM OF AMOUNT WHEN CATEGORY IS
[B9] AND DATE IB 840000,850000

(Ad11): SUM(D7:D9)

What you should see on your terminal's screen and on the paper printout when you print the equations out. Don't take the equations too seriously. They make QueryCalc look more like programming than it really is and perhaps makes it seem much more difficult than it really is. The equations are there if you want to see them. You won't use them in ordinary day-to-day usage.

Please do not hesitate to call us if anything seems unclear or you find that you're having trouble that seems inexplicable. We are quite pleased to help.

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Defining KSAM and MPE (Pseudo)databases for use in QueryCalc

*or how to group selected
KSAM & MPE
files together as
pseudo-databases in
QueryCalc's dictionary
in 15 minutes or less*

Notes Explained

The Dictionary Definition File must be built as an MPE flat ASCII file, 80 characters wide, no line numbers (a standard EDIT/3000 unnumbered file). All blank lines and lines which begin with a "*" are considered comment lines and will be ignored. Where multiple entries occur on a single line, entries may be separated with either blanks or commas.

Note 1. The database name specifies the database type and the name which will be used by QueryCalc. There may only be a one database name defined for any one definition file. The database definition line is of the following form:

MPE-DATABASE name
or
KSAM-DATABASE name

where *name* is the database name which will be used in all query questions involving this database. Names may be up to 16 characters in length.

Note 2. The database password definition section defines all database passwords and the access levels of each password. The password definition line(s) will be of the following form:

password accesslevel

Passwords may be 1 to 16 alphanumeric characters. Password access levels can be set between 0 (lowest security) and 255 (highest security). A user will have access to all datasets and dataitems which have an access level less than or equal to the level of their password. *Default access level is 0. It is recommended that only 0 be used unless you purchase QueryCalc's Dictionary Manager.*

Note 3. Datasets are defined beginning with the FILE heading. The FILE entry defines the detail dataset name and the location of the data file to be accessed as the defined dataset.

FILE filename.group.account

The filename must be a fully qualified MPE filename.

Note 4. A dataset is named with the DATASET heading. Names may be 1 to 16 alphanumeric characters in length and must begin with an alphabetic character. The symbols + - * / ? ' # % & @ are also legitimate characters for use after the first character. *A dataset name is required.*

Note 5. The ITEMS: entry marks the start of dataitem definition. All entries following the ITEMS: entry are dataitems under the dataset specified by the last DETAIL entry.

Note 6. Dataitem entries must be entered in the following form:

name subitem type KEY accesslevel

where *name* is the dataitem name you wish to be used. The dataitem names may be up to 16 alphanumeric characters, beginning with an alphabetic character. The symbols + - * / ? ' # % & @ are also legitimate characters for use after the first character. *A name is required.*

subitem lists the number of subitems which appear in this dataitem. The number must be between 1 and 255. *Default number of subitems, if unspecified, is 1.*

type indicates the dataitem's type and length. The dataitem type must be one of the following types:

<i>IMAGE/QueryCalc</i>		<i>COBOL</i>	
<i>Type</i>	<i>Bytes</i>	<i>Equivalent</i>	<i>Definition</i>
Un	n	A(n)	Uppercase ASCII
Xn	n	X(n)	Lowercase ASCII
Pn	n/2	S9(n-1) comp-3	Packed decimal
Zn	n	9(n)	Zoned decimal
I1	2	S9(4) comp	Short integer
I2	4	S9(9) comp	Medium integer
I4	8	S9(18) comp	Long integer
J1	2	S9(4) comp	Short COBOL integer
J2	4	S9(9) comp	Medium COBOL integer
J4	8	S9(18) comp	Long COBOL integer
K1	2		Short logical
K2	4		Medium logical
R2	4		Short real
R4	8		Long real

Dataitem lengths must lie between 1 and 255. *A dataitem type and length must be specified.*

The word *KEY* specifies a dataitem as a keyed item. Keys are definable only for KSAM type databases. If *KEY* is specified for an MPE file, it will be ignored. *Default is no keyed item.*

accesslevel is the access level of the dataitem. Access levels must be between 0 and 255. A user has access to all datasets and dataitems which have an access level less than or equal to the access level of their password. *Default accesslevel is 0. (The default value is used in the example.) It is recommended that only 0 be used unless QueryCalc's Dictionary Manager is purchased.*

Note 7. Dataset definition continues until an END is encountered.

Note 8. Additional detail dataset definitions continue until a second END occurs or the physical end of the file is reached.

Loading the Dictionary

After you have saved your Database Definition File, sign on as MANAGER.PUB,SYS and run the program ADDKSAM.QCPROGS.AICS. ADDKSAM allows you to add and delete MPE and KSAM databases from QueryCalc's dictionary. The operation of the program is self-explanatory.

Once QueryCalc's dictionary has been updated, run QueryCalc to insure that the dictionary has been loaded properly. This can be easily done by first @OPENing the newly-specified database and then typing @FORM. Carefully check each of the datasets (individual KSAM & MPE files) to be sure that they were properly specified. Then @SHOW 5-10 items from each dataset to insure that the datatypes you specified properly parse the data in the dataset (datafile). If they do not, the data will be scrambled and the entry procedure will have to be repeated.

If your dictionary or data is in error, simply edit your Database Definition File and re-run ADDKSAM. Before re-entering the re-edited Database Definition File, use the [D] function to delete the old database definition from the dictionary. Should you have any trouble with any of this, please do not hesitate to call us. Our numbers are:

(800) AICS-INC (*United States*), (505) 524-9800 (*elsewhere*), FAX: (505) 526-4700

The New Graphical Commands

for use in the pre-release version, QCX, only

New Graphical Commands

/SCALE	the basic command. Questions follow.
/SCALE H 80	sets the page orientation to horizontal and scales the page to 80% its original size (thus putting more information—but with smaller lettering—on the page). The scale factor works like it does on a xerox machine.
/SCALE V 125	sets the page orientation to vertical and scales the page to 125% its original size (thus putting less information—but with bigger lettering—on the page). The scale factor works like it does on a xerox machine.
/FONT	sets the font of a single cell or a range of cells. Questions follow.
/GFONT	sets the global default font. Questions follow.
/SETUP	defines up to 1000 different printer configurations. Prefix and suffix escape sequence strings may be defined to be transmitted to the printer before and after each printing command.
/PRINTER <i>printername</i>	selects the printer configuration as defined in /SETUP. The <i>printername</i> must match one of the pre-configured printer names, but you need only type in enough characters to uniquely identify the printer.
/PRINTER ?	shows currently selected printer.
/GRAPH	defines a graphic definition page (only pie charts currently work).
/ATTACH	attaches a graph to a spreadsheet. Questions follow.
/ATTACH C J5 40	attaches the upper-left corner of the graph defined on page C to cell J5 at 40% its original size. The graph's background, scale, and position can be further modified by typing /EO (edit object). To detach a graph from a spreadsheet, move the spreadsheet cursor onto the graph and type /CO (clear object).

New Graphical Print Commands

<code>/PRINT</code>	the basic command. Questions follow.
<code>/PRINT ALL S</code>	prints all pages to the system printer.
<code>/PRINT A,D:M L</code>	prints pages A and D thru M to the local screen (which is your terminal or PC).
<code>/PRINT E,G,R D filename</code>	prints pages E, G, R, and D to a disc file named <i>filename</i> .
<code>/PRINT A S 2 MAP RULER</code>	prints 2 copies of page A to the system printer, with a cell grid map and a <code>/LAYOUT</code> ruler. The page count, map, and ruler are optional specifications and can occur in any order, either individually, or in any combination. The specified page count may vary between 1 to 99.
<code>/PRINT B S FORMC 3</code>	prints 3 copies of page B, which is presumed to be a detailed list <code>/REPORT</code> page, using the form found on page C. (The <code>MAP</code> and <code>RULER</code> options may also be used—should it make any sense to do so).
<code>/PRINT ALL S 5</code>	prints 5 copies of all of the pages to the system printer. <i>Note:</i> The <code>FORMx</code> , <code>MAP</code> , and <code>RULER</code> options only work when the system printer is a PostScript printer. They have no effect when printing to an ASCII/PCL printer.
<code>/PRINT PAL S 2</code>	prints two copies of QueryCalc's easy color selector palette onto the system printer.
<code>/PRINT PAL D filename</code>	prints the color palette to a disc file named <i>filename</i> .

<code>/DOWNLOAD fontname</code>	downloads a custom font into the currently selected PostScript printer. Although you must purchase the font(s) from a standard graphics dealer (\$20-\$80, Macintosh format), please contact us. The font will have to be slightly reformatted for use on the HP3000.
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Graphical Object Commands

<code>/BOX</code>	the basic command. Questions follow.
<code>/BOX A2:D20</code>	creates a white box with solid black outline from cell A2 to D20, with no shadow. The cell anchor points are initially located 50% over in the cell and 30% up. If you wish to modify any part of the box, use <code>/EO</code> .
<code>/LINE</code>	the basic command. Questions follow.
<code>/LINE A2:D20</code>	creates a solid black line from cell A2 to D20. The cell anchor points are initially located 50% over in the cells and 30% up. If you wish to modify any part of the line, use <code>/EO</code> .
<code>/LOGO</code>	the basic command. Questions follow.
<code>/LOGO B F52 15</code>	attaches the logo in file slot B so that its upper-left corner resides in cell F52, at a 15% scale. Logos may be composed of up to three colors (called: light, dark, and third). The light color is set initially to white; the dark and third colors are black by default. If you wish to modify any part of the logo attachment, use <code>/EO</code> .
<code>/EO</code>	edits the current object (line, box, or graph attachment). Appropriate options follow.
<code>/FO</code>	brings the current object to foreground
<code>/BO</code>	sends the current object to background
<code>/CO</code>	clears the current object from screen
<code>/SO</code>	shows the full detail of the object specification. You can press the cursor (function) keys and move the cursor from object to object while in this mode.
<code>/DO</code>	display the object list (a debug command similar to <code>/DC</code> and <code>/DQ\$</code>).

New Search Set Usages

Basic usage

@find when item-name=!a

(if ITEM-NAME is a search item, a chained or keyed search results. If ITEM-NAME is not a search item, a serial search results.)

Mismatched search items (text dataitems only)

@using set-one, store in !a keyitem1 when

@using set-two, find when keyitem2 is !a

(KEYITEM1 is an X10 field)
(KEYITEM2 may be a smaller or larger X or U field.)

Partial key compares against sets

@using set-one, store in !a keyitem1(3,6) when

@using set-two, find when keyitem2(5,8)=!a

(keyitems are X or U fields)

More than one set may now be used in a query

@find when item1=!a and item2=!b and item3=!c

(all, none, or any combination of items may be search items. The first search item in such a sequence will be the search item used in a chained or keyed search. Put the most restrictive set first for maximum performance.)

If an OR phrase is used with multiple sets

@find when item1=!a and item2=!b or item1=!a and item3=!c

(if ITEM1 is a search item and you wish the search to proceed as a chained search, ITEM1 must appear in all OR phrases. Ideally, it would appear first, but it is not necessary. If the same search item is not chosen as the search item in every OR phrase, the search must revert to a serial search.)

New Search Set Usages (Cont'd)

Dataitem redefinition

@store in la keyitem when;type=+P8

a numeric dataitem (in this case, keyitem) can be extracted, stored in search set A, and converted to a new data format all in one query command.

The legitimate datatypes are:
R2, R4, I1, I2, I3, I4, J1, J2, J3, J4,
K1, K2, K3, K4, Pnnn, Znnn.

Signed P and Z types are represented as +Pnnn and +Znnn.

Arithmetic manipulation of the store dataitem

@store in la keyitem/1000 when;type=+p8

division, multiplication, subtraction, addition, and exponentiation allow the creation of new search item values in a search set.

if the statement is combined with a TYPE phrase, the search values can be simultaneously redefined to a new datatype.

if "+" is the only mathematical operator used, addition is NOT presumed. Rather, the operation is presumed to be text concatenation (see below).

The creation of concatenated key values

@store in la lname+fname+idnumber when.....

a concatenated text key composed of several dataitems can be created. Numeric items are converted to a text field of 20 characters. Text items assume their defined widths.

This feature is expected to be primarily used with the new @find !a/@rereading, val of nextvalue(4,10) construct in detail list reports.

Global Headers and Footers

Defining Global Headers/Footers

`/HEAD` invokes the header/footer spreadsheet. Only standard text equations may be entered into the header/footer spreadsheet, but these equations may include references to cells back on the spreadsheet.

The spreadsheet commands that are active in header/footer spreadsheet are: `/E`, `/REDO`, `/FONT`, `/CLR`, `/CLR ALL`

`/HEADOFF` allows for the temporary suppression of headers and footers that have been defined when the `/HEADOFF` command precedes the `/PRINT` command. The header flag, however, is automatically reset to "ON" at the completion of the print.

`/HEADON` sets the header print flag to "ON"

Defining Page Numbers in Headers & Footers

`$"Page ##"` All text equations are scanned for the occurrence of two pound signs (##) after the text equation has been executed. If there appear two ##'s consecutively, these ##'s are substituted with the current page number.

Global Headers and Footers (cont'd)

Printing the File Name in Headers & Footers

`$"@@@/Page ##"`

The currently executing QueryCalc file's name can also be put into a header or footer text equation. If, at the completion of the text equation's execution, there appear two (@@) or three (@@@) commercial-at symbols, the current file name will be substituted into the header or footer cell.

@@ = just the QueryCalc file name

@@@ = file name.groupname.acctname

The example shown would result in something like the following:

MYFILE.PUB.DBDATA/Page 13

Setting Fonts in Headers & Footers

`/FONT`

The font-defining command, `/FONT`, works in `/HEAD` exactly as it does on the spreadsheet. What is different, however, is that the spacing of the header and footer lines is not fixed at 12 points, as it is on the spreadsheet and report pages, but varies with the maximum size of text used on each header or footer line.

Building KSAM Datasets

Printing to a new KSAM dataset

<code>/PRINTDB</code>	the basic command. A single question follows.
<code>/PRINTDB C SHAR76</code> <code>/PRINTDB C SHAR76 APPEND</code>	prints the results of Page C's detail list report to a new KSAM pseudodataset named SHAR76, which will automatically be added as a part of the pseudodatabase PRINTDB—or optionally, appends the results to the existing SHAR76 dataset.

The dataset name must be composed of seven or less characters and comply with MPE file naming conventions (that is, it must begin with a letter, have no spaces in the name, and be composed of only letters and numbers).

/PRINTDB Mechanism:

`/PRINTDB` "prints" the results of a detail list report page to a new or existing KSAM dataset. The names specified in Column B of the `/REPORT` page become the dataitem names. The KSAM dataset is automatically made part of the pseudodatabase PRINTDB.

The Column B names are more restrictive for a `/PRINTDB` command than they are for a general `/REPORT` page. Because these names will be entered into QueryCalc's dictionary, they must conform to IMAGE's naming conventions (that is, they must be 16 or less characters in length, composed of letters, numbers, or the symbols {*, /, ^, +, -, #, \$}, without spaces).

The first 16 names that appear in Column B of the `/REPORT` page will become KSAM search items. If less than 16 names are used, all dataitems will be keyed.

The sequence of events executed with a `/PRINTDB` command is: (i) the PRINTDB database is closed, (ii) the dictionary is modified to reflect the new dataset, (iii) the records are transferred into the new dataset, and (iv) the PRINTDB database is re-opened.

KSAM datasets which cannot be found whenever the PRINTDB database is opened are automatically scrubbed from QueryCalc's dictionary. Thus, the simplest way to eliminate unused datasets from the PRINTDB pseudodatabase is to purge old KSAM files.

To ask a query of the newly formed dataset, the syntax is identical to all other queries, the only difference being that the database is named MYNAME-PRDB:

@Using myname-prdb.myname, sum of amount when category is 501

where *myname* is the name you specify in the `/PRINTDB` command. The password for the database is: READER

Faxing from QueryCalc

Defining the fax number

`/FAXTO 1 208 555 2377`

sets in the fax number of the recipient and sets the FAX flag on. Hyphens, parentheses, and spaces may be used within the phone number, if you wish. They are ignored by QueryCalc.

`/FAXTO 9,,1 505 526 4700`

commas represent a 1 second pause, thus if you need to first obtain a dial-tone by dialing "9", insert one or two commas after the "9" to insure that the first digits will not be dropped.

`/FAXTO 1 505 526 4700 PS`

if you know (or suspect) the remote fax machine to be a PostScript Fax-compatible printer, add "PS" to the end of the fax number. When "PS" is present, a PostScript Fax transmission is tried first. If successful, PostScript code will be transferred to the remote fax printer rather than the standard Group III fax bitmap you normally associate with standard fax quality. The result will be perfect output quality (in full color, if the remote fax printer is a color printer) with a greatly reduced transfer time.

Faxing documents from QueryCalc

`/PRINT A:M S`

every `/PRINT` that is printed to the selected PostScript fax printer when the FAX flag is "on" will be faxed to the selected recipient. Each `/PRINT` statement will be a separate fax (that is, the number will be dialed, the pages transmitted, and then the line will be disconnected).

Resetting the FAX flag

`/ENDFAX`

turns off the FAX flag. All `/PRINT`'s now print to the PostScript fax printer as they would to any other printer.

Faxing from QueryCalc (Cont'd)

Setting the Fax Printer's Clock

`/SETFAXCLOCK`

synchronizes the PostScript Fax printer's clock to the HP3000's system clock. This command need be entered only when a new fax printer is first added to the HP3000 and at periods such as a change in time (e.g., daylight savings time).

Printing an Activity Report

`/FAXREPORT`

prints an activity log report. The activity log report will print automatically once every 25 outgoing faxes. You may additionally request the report whenever you wish with this command.

Configuring Your Fax Machine

`QCFAXCFG.QCDICT.AICS`

use any standard editor on the file `QCFAXCFG` to change the settings to those desired. Copies of this file may be copied to your logon group. QueryCalc will preferentially use the fax configuration information in your logon group for all faxes originated from that group.

Setting up a Phone Book

`QCFAXPB.QCDICT.AICS`

names of your choosing may be entered into a fax phone book. Use any standard editor on the file `QCFAXPB` to add or delete entries. Copies of this file may be copied to your logon group to establish additional personalized phone books.

`/FAXTO AICS`

names may now be substituted for phone numbers in the `/FAXTO` command.

`/FAXTO AICS PS`

you may add "PS" the `/FAXTO` command when using either names or explicit fax phone numbers. Similarly, you may add "PS" to the numbers stored in the phone book. Specifying "PS" both in the phone book and in the command does no harm; it simply sets the PostScript Fax flag twice.

The COUNTER mathematical function

te sv
COUNTER(filename, operation)

where te is a text equation and sv is a single-value, a letter in this case.

Examples:

counter("myfile.group.acct",i) the specified file, MYFILE, is opened and its numeric value (written as an ASCII text character) is incremented by one. The file is then closed.

counter(d10,d) the file whose name is held in Cell D10 is opened and its numeric value (written as an ASCII text character) is decremented by one. The file is then closed.

counter("newfile",c) creates a new flat ASCII file named, NEWFILE, and sets the numeric value contained in the file to "1".

The operators that are recognized by the *counter* numeric function are:

I = increment the file's count value

D = decrement the files's count value

C = create the specified file and set its value to 1

R = reset the file's value to 1

Uses:

The counter function allows you to maintain as many distinct counters as you wish (with each counter having its own file name) for functions such as incrementing invoice numbers. Because the count file does not belong to any one QueryCalc report, it may be updated by any number of sessions or jobs running simultaneously, thus maintaining a unique and sequential count for all users.