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TOM MARCELLUS

BECAUSE you rely on Q&A day after day to help you manage your business or department, you ought to be thinking about your future with it. *How can you better leverage your investment in Q&A? How well will it serve your needs a year or three down the road? How can you be more productive with it on today's PC's and operating systems?*

These issues and more will be the focus of the 1998 Q&A Masters Seminar on September 25th in Washington, D.C., where the theme will appropriately be *Q&A in the 21st Century*. If you've never attended a Q&A Master's Seminar, this is the one you shouldn't miss. We promise you an intensive daylong focus on the data management problems you face—or will face—and you'll come away not only with a renewed appreciation for what Q&A can do for you now, but also for what it will be able to do for you in the months and years ahead.

If fact, you should come for the entire weekend and attend the National Q&A Users Group Eighth Annual Bash as well, where you'll discover even more ways to make Q&A work harder for you. You'll mix with fellow Q&A enthusiasts from around the world, participate in workshops on various Q&A topics, get your questions answered, and have a whale of a good time.

You'll find an insert in this issue with the details and registration forms. You can also visit *The Quick Answer's* Web site at www.quickanswer.com and the National Q&A User Group's Web site at www.qaug.com for information on these two important Q&A events.

Be with us in Washington, D.C. September 25 through 27, and your future with Q&A will look brighter than you thought possible.

Quick Tip Speedy Keyword Fields

Retrieving records on a Keyword field value can be very fast if you make the field Speedy. This is because Q&A makes an entry in the index (.IDX) file for every value you put in the Keyword field. So retrieving a record based on a Keyword is just as fast as retrieving it using a unique key value like a social security number.

There's a price to pay, however. When a database contains Speedy fields, Q&A has much more work to do updating the index when you add or change a record. A Keyword field with 10 entries in it will make Q&A work as hard as if you had 10 Speedy fields. So make a Keyword field Speedy only if you really need exceptional retrieval performance.

Also, keep in mind that the way you set up your Retrieve Spec for any Speedy field (whether or not it's a Keyword field) is important. Certain retrieval syntax

prevents Q&A from using the index efficiently. For example, Q&A can use the index very efficiently when you specify an exact retrieval value or a greater-than or lesser-than comparison, but it can't use the index efficiently when you use a wild card (.) or Retrieve Spec programming, such as an expression enclosed in French braces.

[For more on the dynamics of Keyword fields, see "All About Keyword Fields" in the May 1998 issue. —Ed.]

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JOHN T. DOW

Payment Dates...continued from page 1

the programming developed, I found that Q&A handles this "automatically." That rather conveniently eliminated the complications of figuring out whether or not a leap year is in the mix.

The only programming you'll need is an on-field-exit statement in field #10. Here are the first two parts of it:

```
>#10:
If @Dom(#10) <= @Lu(@Month(#10),2) then
#20 = @Str(@Yr(#10) + @Lu(@Month(#10), 3)) + "/"
+@Str(@Lu(@Month(#10),1))+ "/" + @Str(@Dom(#10))
Else
{#20 = @Str(@Yr(#10) + @Lu(@Month(#10), 3))+ "/"
+@Str(@Lu(@Month(#10) +1, 1)) + "/01";
#20 = #20 -1};

If @Dom(#10) <= @Lu(@Month(#20), 2) then
#30 = @Str(@Yr(#20) + @Lu(@Month(#20), 3)) + "/"
+@Str(@Lu(@Month(#20), 1))+ "/" +@Str(@Dom(#10))
Else
{#30 = @Str(@Yr(#20) + @Lu(@Month(#20), 3)) + "/"
+@Str(@Lu(@Month(#20) + 1, 1)) + "/01";
#30 = #30 -1};
```

The first section calculates the date for field #20. The second calculates the date for field #30. The same basic statement is repeated up through field #130 (in this example), and can be extended for as many additional due dates as needed.

What the program does

If the Day of the Month (@Dom) of the Starting Date is less than or equal to the number of days in the month following the Start Date (in column 2 of the Lookup Table), then the first part of the IF statement is executed, assembling a date in Q&A's internal date format of YYYY/MM/DD.

For the year, the statement checks column 3 of the Lookup Table to see if you might be entering the subsequent year, which of course happens only when the current month is 12. If this is the case, the program adds 1 to the year.

Next, the program needs the number of the subsequent month. You can't just increment the month by one, because month 12 must become month 1. I've used the Lookup Table for all months because it's only 12 easy entries, and simplifies the programming. (You then don't need a statement such as *If @Month < 12 do it this way; otherwise do it that way.*)

Finally, the program tacks on the day of the month of the starting date.

Now for the ELSE.

As an example, assume the starting date is January 31. This isn't less than or equal to the number of days in February, so the ELSE is executed. Basically, it assembles a date in Q&A's internal date format, except it goes to the Lookup Table, *not* for the subsequent month, but for *the month after that* (@Month(#XX) + 1). It makes the date the 1st of that month, then subtracts 1 day. (If you're

interested in what happens when the month is December see the section, "What About December?")

So, in the example, it goes to March 1 and subtracts one day, which correctly returns February 28 or February 29, as the case may be.

The next section calculates the date for field #30, based on fields #10 and #20. The section after that calculates the date for field #40 based on fields #10 and #30. With field numbers consistently incremented by 10's in this way, you can copy one section to the next (using the F5 Copy key in Q&A 4.0 or 5.0, or QA5.0's F11 Copy and F12 Paste keys). This way, all you'll have to do is increment a few numbers to complete the programming.

What About December?

You might have noticed that if the date is December and the program consults the Lookup Table for @Month(#XX) + 1, it will expect the Key column to contain 13. Since there is no 13, the statement should fail. However, the ELSE part of the statement can never be executed for December because the highest @Dom(#10) can be 31, and therefore the first part of the IF statement (less than or equal to) is always executed.

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When Your Program Calls for a Gosub

When your program consists of repetitive statements, like the one shown earlier, with certain field ID numbers always incremented the same from statement to statement, you should consider using a Gosub/Return. If you had a particularly large number of due dates to calculate (a 30-year mortgage, for example), a Gosub would make a lot more sense (and a lot less coding). You simply cycle through the Gosub however many times are necessary to fill out your table of payment dates.

You'd probably want to initialize a *Counter* field (in this case, starting at 10), and as you cycle through the routine, have your program increment Counter (in this case, by 10), and check to see if the counter has reached the end (in this case, when it's more than 130). When it *has* reached the end, it stops.

If you subscribe to the Online Edition of *The Quick Answer*, you'll receive the database featured in this article, though programmed using a Gosub routine rather than the multiple repetitive statements.

Swap Macro Files the Easy Way

IZZY GINDI



If you have different macro files, and need a way to switch between them in a flash, do it the Izzy way!



DEPENDING on how you use Q&A, there might be times when you need more than one macro file. One or more of the following reasons might apply:

- Q&A can allocate only up to about 30K of memory to a macro file. This might not be enough for your application or applications.
- You can run out of available key identifiers (macro hotkeys) as you add more and more macros to your macro file.
- If you work with several different Q&A applications (for example, invoicing and billing, payables, inventory management, payroll, personal databases), you might find it optimum to have one macro file (perhaps containing a custom menu structure) specialized for each application.

One of the major drawbacks of multiple macro files is the inconvenience of having to swap them in and out of memory. It takes a dozen or more keystrokes to load a new macro file, and you have to remember the exact spelling and path of the filename you want.

But it doesn't have to be that way. What if you could press a hotkey to display a list of all your macro files, and simply *select* the one you want? No more having to press Shift-F2 and type the path and filename, and no more rummaging your Q&A directories looking for the macro file you need.

Unfortunately, you can't use a Q&A macro to swap macro files. If you try to record or write such a macro, it won't work. Even if by some miracle you concocted such a macro, it couldn't load another macro file because it would cease to exist in memory before it could do the job!

I'll show you how you can swap macro files instantly using only Q&A and a simple DOS batch file. You can use the technique to quickly and conveniently switch between just a couple of macro files, or you might find a more sophisticated use for it, such as swapping macro files containing custom menu structures for several different applications.

How it works

What makes the macro file-swapping technique possible is one simple fact—by default, Q&A loads the QAMACRO.ASC macro file on start-up. Therefore, to switch to another macro file, you simply copy it to QAMACRO.ASC, then exit and restart Q&A. Q&A will load QAMACRO.ASC as usual, but the file will contain a different set of macros.

In a nutshell, here are the steps involved:

1. A macro hotkey you choose displays a picklist of available macro files.
2. The one you select is copied to QAMACRO.ASC, overwriting the file.
3. Q&A exits and restarts automatically.

All you need is one macro to do all this.

There are many ways to display a picklist of macro files, but the easiest way I've found is to assign the same filename extension to all my macro files, and use Q&A's List Manager to display them all by themselves in alphabetical order. Copying the selected macro file to QAMACRO.ASC can easily be done by the macro from the Q&A Utilities menu.

The easiest way to exit and return to Q&A (with the new macro file now in memory) is by using an Alternate Program on the Main menu that calls a null (empty) DOS batch file.

Here's how you do it.

Rename your macro files

It's advantageous, though not mandatory, that you create a new directory to store your macro files. For the purpose of this article, let's assume this directory is C:\QA\SWAPMACS\

Rename all your macro files, giving them the same file extension. You'll then, for example, have macro files named *Clients.mac*, *Payroll.mac*, and *Payables.mac*.

Create an empty DOS batch file

In Q&A Write, save a blank document to ASCII with Ctrl-F8. Name it Swap.bat, and save it to your \Swapmacs directory. The macro file-swapping technique will use this empty batch file to exit and reload Q&A.

Add an Alternate Program

On the Utilities / Alternate Programs screen, type something like E***** on the Menu Selection line (if you don't already have a selection that begins with "E"), then type C:\qa\swapmacs\swap on the Alternate Program line. You can use Alternate Program 6 to make this the last Alternate Program on the Main menu.

Record the Swap macro

You can now record the swap macro. Before you do, though, make sure you copy your QAMACRO.ASC file to another directory as it will be overwritten. If you want to have access to the macros in your existing QAMACRO.ASC file, simply copy it to a name such as DEFAULT.MAC and place DEFAULT.MAC in your \Swapmacs subdirectory. To record the macro, follow these steps. (I'll assume that your Q&A program files are in a directory named C:\QA. If not, modify the instructions accordingly.)

1. Make sure that Automatic execution is set to Yes at the Utilities / Global Options screen. Start the macro recorder from the Main menu (Shift-F2 / Define Macro), and choose Alt-M as the key identifier. (You can use another key identifier, but the "M" in Alt-M will remind you that it's for macros.) With the recorder running, select Utilities \ DOS file facilities. Select *Copy a File*, clear the path with Shift-F4, type C:\QA\SWAPMACS*.MAC, then press Enter. The names of the three macro files will display, like this:

```
Clients.mac
Payables.mac
Payroll.mac
```

2. Pause the macro (press Alt-F2), select a macro file, then end the pause (Alt-F2) and press Enter.
3. Clear the path with Shift-F4, type C:\QA\QAMACRO.ASC, and press Enter. Answer YES to the overwrite warning.
4. Press Esc twice to return to the Main menu, and end the macro by pressing Shift-F2.

5. Edit the macro in Write, inserting the letter E before the <enddef>. Resave the macro file with Ctrl-F8.

The macro should look like this in Write:

```
<begdef><altm><name>"Swap<sp>Macros"<vidoff><esc>
<esc><esc>udc<capsf4>c:\qa\swapmacs\*.mac<enter>
<wait><enter><enter><capsf4>c:\qa\qamacro.asc
<enter><lft><enter><esc><esc>E<enddef>
```

Copy the macro to all macro files

Next, copy this new Alt-M macro to all your other macro files. If you're using Q&A 5.0, you can use the Clipboard (F11 to copy, F12 to paste). Make sure that no macro file contains two Alt-M macros. If there's already another Alt-M macro in a file, you'll have to rename it.

Place the macro on the Alternate Programs menu

You can now swap macros, simply by pressing Alt-M and selecting the macro file from the list. If you like, you can even add your Alt-M macro to the Alternate Programs menu (just above the E***** selection, perhaps). This way, instead of having to press Alt-M, you could simply invoke that selection to switch to a different macro file.

What happens when you press Alt-M?

When you press Alt-M, it doesn't matter which macro file is in memory since you'll have the same Alt-M macro in all your macro files. Alt-M will display just your macro filenames on a convenient list, pause for you to select one (by pressing Enter), then copy the selected macro file to QAMACRO.ASC. The macro will then continue, executing the Alternate Program DOS batch file which, in turn, exits and restarts Q&A, loading the new macro file.

In a future article, I'll tell you how I use a variation of this technique to instantly switch between multiple macro files with independent custom menu structures.

Izzy Gindi lives in Hanover, Ontario, Canada where he designs Q&A applications for himself and clients. 519-364-3536, fax 519-364-6181, izyginidi@log.on.ca. A working model of this technique that lets you switch between custom menu systems can be downloaded free of charge from Izzy's Web site at <http://www.macrodatabse.com>.

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EDITED BY GORDON MEIGS
AND WILLIAM HALPERN



Displaying Military Time



I'm having trouble getting Q&A 4.0 and 5.0 for DOS to display morning times in a four-digit format. (Q&A displays only the hour and minutes if the time is "AM." I need four digits for all hours, for example, 06:29 for 6:29 AM, 18:29 for 6:29 PM, and so forth. Any suggestions?

Tom Andross, via e-mail

You're quite correct. If you choose Q&A's "16:55" time format (often referred to as military time), and enter a time before noon, Q&A displays only three digits (7:39) even if you enter the full four digits (07:39).

There are several solutions. If you don't need to perform time math, you can leave the field formatted as text, select File / Design / Customize / Field Template, and place ##:## in the time field. In Program Form, you can use an on field exit statement (such as `>#10:If @Len(#10)<4 then goto #10`) to force entry of a full four-digit time value. In Field Navigation, you could add an on-field-entry statement like `<#10:@Msg("TIME must be 4 Digits, i.e. 03:44")` as instructions. When the program returns you to the field, you'll see the message telling you why you're still there.

If you need to use the time in calculations (to determine elapsed time, for example), you have several options. One is to place another field on the form to store the earlier text value as a real time value. (Let's call it field #20.) The actual contents of the templated text field in the above example is only the digits 0344 – the colon is for display only. So, you can modify the on-field-exit statement to read: `>#10:If @Len(#10) < 4 then goto #10; #20 = (@Lt(#10, 2) + ":" + @Rt(#10, 2))`. The second part of this statement converts the four digits to a valid time value, and places the value in the time-formatted field #20. You can use more "shadow" time fields for other time values, keeping the display fields formatted as text. Any time-related calculations will refer not to the text fields, but to the "shadow" fields.

A more advanced approach is to have only templated text fields for time values. Suppose you have the above field #10 for the Start Time, and field #50 for the End Time. You can program the Elapsed Time field using Q&A's built-in functions as follows:

```
#60 = @Totime(@Lt(#50, 2) + ":" + @Rt(#50, 2)) -  
@Totime(@Lt(#10, 2) + ":" + @Rt(#10, 2)).
```

In this case, you don't need extra "shadow" fields, but you do need to remember to convert each four-digit time value to a valid time format, then apply the @Totime function so Q&A treats the text string "03:44" as a time value rather than text. If you have several Starting, Ending, Elapsed time trios, you can, in Q&A 5.0, use F11 to copy the above program to the Clipboard, F12 to paste it into the other Elapsed Time fields, then simply change the field reference numbers.

Expanded Memory for Q&A 5.0



I'm running Q&A 5.0 in Windows 95 with the Memory EMS (Expanded Memory) property set to 256K. When I run a second copy of Q&A as an Alt-F9 External Programs selection, that second copy doesn't have any EMS. How come? And is there anything I can do about it?

Alec Mulvey, Ascot, England

Alec tells us that he has always set EMS memory for Q&A running in Windows 95 to a value of 256K. That's all Q&A uses, so why set aside more EMS than necessary? If you run a second copy of Q&A as an External Program, the first copy of Q&A has access to 256K EMS memory, but it leaves zero EMS available for the second copy. The problem with this is that Q&A, particularly version 5.0, doesn't like having no EMS. We experimented with our recommended 1024K EMS setting for Windows 95, and found that the second copy has 128K EMS plus 80K available. (Q&A's System Information screen, line 15. Press Ctrl-F3 from Q&A's Main menu.) That's more than



Stumped?

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enough for most operations. But if you have some reason to run a *third* copy of Q&A, it will have no EMS. (For those interested in trivia, if you set EMS to 1072K, copy 2 will get 128K plus 128K free, or a "full complement" of 256K EMS. If you set EMS to 2048K, even the third copy will have plenty of EMS available. The fourth will have 128K plus 112K free. It isn't until the *fifth* copy that Q&A will run out of EMS. However, we've never had a reason a reason to run *that* many copies!

Programming Logic and Sequence



We have a programming statement conditionally running a macro that's driving us nuts. We can only seem to get one part of it to work. The procedure seems simple enough: If the user marks a field as "Y," then we want to change that to an "X" and run a macro that saves the record and returns to another database to retrieve the parent record. If the user marks the field as "N" or simply leaves it with an "X," we want the program to leave the field as is and run the macro to return to the parent record. The second part works, but the first part ("Y") seems to go wild and doesn't find the correct record (Q&A displays a "no records found.." message). Here's the programming statement and macro. What are we doing wrong?

```
> #300: If #300 = "Y" Then {#300 = "X"; @Macro("Done")};
    If #300 <> "Y" Then {@Macro("Done")}

<begdef><altj><name>"Done"<vidon><home><home><home><f11>
<capsf10>s<capsf4>jobs<enter><tab><f12><end>..<f8><tab>las<f10>
<enddef>
```

Jon Handley, via the Internet

The answer is in the sequence of your programming commands and the order in which Q&A runs macros. Your macro is fine. However, Q&A handles multiple programming conditions in a sequential manner. In this case, if the field doesn't have a "Y" in it, Q&A skips the first part of the program and runs the macro in the second line. If the field contains "Y," Q&A marks it as "X," notes there's a macro to run, but before doing so evaluates the second line of the program. Since the field is now "X," the second statement is true and Q&A prepares to run the macro again. What you're experiencing is the result of the *second* macro running on the primary database after the first macro has completed. You can solve this by simply reversing the order of the logic in your statement:

```
>#300:If #300 <> "Y" Then {@Macro("Done")};
    If #300 = "Y" Then {#300 = "X"; @Macro("Done")};
```

Since the field can only be "Y" or something else, the logic goes like this:

Is the field "Y"? Run the second statement. (Set the field to "X" and run the macro)

Is the field Not "Y" Run the first part of the statement. (Run the macro and leave the field alone. Skip the second part because the field isn't "Y.")

Who's Really Older?



In the May 1998 issue, Bill Halpern had a QuickTip showing how to determine a person's age in years and months. Can you show how to determine someone's age in years and days since the last birthday? I'd really like to add this feature to my family reunion database.

J. Juarez, via the Internet

We'll assume that you want to track family member ages (who's the oldest, the youngest, and so forth). The years/months approach in my article won't do that since the months calculation isn't accurate enough to differentiate between persons born on different days in the same month. To do a years and days calculation to tell you how old a person was on his or her last birthday, and how many days have elapsed since that birthday, you can use a calculation like the one below in the DoB (date of birth) field, with two additional fields named **Age in Yrs** and **Days**:

```
>Rem("Years Calc");
    If @date>=@Td(@Str(@Year(@Date))+"/"+@mid(DoB,6,5))
    Then {Age in Yrs=@Year(@date)-@Year(DoB)}
    Else {Age in Yrs=@Year(@date)-@Year(DoB)-1};

    Rem("Days Calc");
    If @Month(@Date) < @Month(DoB)
    Then Days=(@date)-@Td(@Str(@year(@date)-
1)+@Str(@Rt(DoB,6)));
    If @Month(@Date)=@Month(DoB) and @DOM(@Date)<@DOM(DoB)
    Then Days=(@date)-@Td(@Str(@year(@date)-
1)+@Str(@Rt(DoB,6)));
    If @Month(@Date)=@Month(DoB) and @DOM(@Date)>=@DOM(DoB)
    Then Days=(@date)-
@Td(@Str(@year(@date))+@Str(@Rt(DoB,6)));
    If @Month(@Date) > @Month(DoB)
    Then Days=(@date)-
@Td(@Str(@year(@date))+@Str(@Rt(DoB,6)))
```

The key to this approach is in determining whether the last birthday was in the current or previous year. You do this by comparing the months. If the current month is less than the birthday month, then the last birthday was in the previous year (in May, someone born in June had their last birthday last year). From that point on (after adding some conditions to take care of the birth month), you can calculate how many days have passed since the last birthday.

By the way, if you just want to *compare* peoples' ages, the simplest way to do it is to find the answer in *days* using Q&A's built in date math: @Date - DoB. The result will give you the total number of days elapsed since the person was born.

Bill Halpern and Gordon Meigs own Professional Computer Technology Associates (PCTA) in Newtown, Pennsylvania. PCTA specializes in data management and supporting systems and services. 215-598-8440, 717023.356@compuserve.com

Two Utilities Help Busy Database Administrators

ALEC MULVEY



If you're a busy security-conscious database or network administrator, a couple of handy utilities can make your life a lot easier.



JOHN DOW is well known for his Q&A Utilities. Two of his most popular ones, DTF SPECS and DTF DOCTR, have been reviewed or discussed in past issues of *The Quick Answer*. (See December 1994, October 1995, July 1996, October 1996, January 1997, and June 1997.) We'll look at two utilities John created for administrators of larger multi-user Q&A installations. Both can be of great benefit when managing security with many users or many databases. This month, in Part 1, we'll look at John's DTFADMIN. Next month, in Part 2, we'll cover DTFPASWD.

DTFADMIN

John's DTFADMIN utility provides a facility conspicuously absent from Q&A — a security documentor. It lets a database administrator look at security as a whole, for one or several databases, and for one or several users. Output from this utility can be sent to the screen, printer, or to a file.

Installing DTFADMIN is easy. You copy the single executable file to a directory, preferably one in your PATH statement. The most convenient location is the directory where you store your databases, as this eliminates having to specify pathnames, just filenames.

Running DTFADMIN is equally simple. You can run it from a DOS prompt, a PIF, or a Windows 95 shortcut, using the command line parameters described below. (Typing DTFADMIN [Enter] produces a useful guide to the required syntax.)

For example, to analyze the database PUPILS.dtf, you'd use the command line:

```
DTFADMIN PUPILS
```

This produces a screen listing of the security for this database, but only after prompting for your User ID and password, which are checked against the Security Spec for the database. Only if the User ID and password correspond to a user with Assign Password rights will DTFADMIN proceed.

(If the User/ID Password combination is invalid, you'll receive a "Not Authorized" message.

A general principle of DTFADMIN is that it doesn't provide any security information not available through Q&A. For example, it doesn't reveal whether the User ID or the Password, or both, are wrong.

Assuming the User ID / Password combination is valid, DTFADMIN next asks you whether you want passwords shown. A "Y" or "N" response is expected. More on this feature later. Assuming passwords are requested, the screen display would look something like Figure 1.

```
Database PUPILS.DTF
Security report prepared 05/20/98 04:53PM for ALEC
DATABASE LOCK PASSWORD: xxxxxxxxxxxx
XLOOKUP user: (None)
Password: (None)
FIELD SECURITY SPECS
2: READ-ONLY: - All but extra info
3: Parents' Addresses editable
4: HEAD TEACHER
5: Academic XLookup
6: M. Kennet: Read-only + formsort
```

Press any key to continue, ESC to stop.

Database PUPILS		Fid Sec.	ACCESS RIGHTS						
NAME	PASSWORD	Spec	Passwd	Design	M Del	Del	M Updt	Rpts	Edit
ACADEMIC	NORTH	5							
ALEC	*XXXXXXXXXX		P	D	M	X	U	R	E
ANDERSON	CAMBRIDGE	2							E
BRACKNELL	CONCEPT	2							E
BRENNAN	PASSWORD	3				X		R	E
BURSAR	CEDAR	2							E
DB ADMIN	*XXXXXXXXXX		P	D	M	X	U	R	E
HEAD	*STAYMAN	4							E
JACKSON	ROVER	2							E
KENNET	25SEP	6							E
NORTH	OXFORD	2							E
SECRETARIES	AVON	5							

Figure 1. Sample Security Report generated by DTFADMIN.

The information in Figure 1 reveals the following:

- There's a Database Lock Password. You can't tell if it's active or what it is. If there's no lock, this is indicated.
- What the XLookup User ID and Password are, if any.
- The list of Field Security Specs, if any. They're assigned numbers by DTFADMIN as an easy way of showing the spec to which each user is assigned.

- A table showing a list of all users, the permissions assigned to them, and which field level security spec they've been assigned to, if any. The part of the table headed *Access Rights* shows which of the rights (for example, Assign Passwords, Redesign Form, Mass Delete) have been given to each user.
- The table also shows the passwords of all users *except administrators* (those who have permission to assign passwords). An XXXXXXXXXX appears in any Administrator's Password column.

How DTFADMIN handles passwords

As I mentioned earlier, DTFADMIN respects Q&A Security Specs. It isn't a "password-breaking" utility. As there's an option to print this report, administrators' passwords aren't shown, for if such a report should fall into the wrong hands, it would totally open up all the Q&A security (except the database lock). The one thing that DTFADMIN does that Q&A doesn't is reveal the passwords of those users who have changed their password since one was first assigned. This is indicated in the table by an asterisk in front of the password. So in our example, user HEAD has changed her password to STAYMAN, and the users ALEC and DB ADMIN have changed passwords, but they aren't shown because they're both administrators.

Printing the Security Report

You can print DTFADMIN's Security Report by adding the printer port switch to the command line, like this:

```
DTFADMIN PUPILS LPT1
```

To print to a plain DOS text file, specify the filename:

```
DTFADMIN PUPILS C:\SECURITY.TXT
```

You can use any name for the output file. Just be sure such a file isn't left on disk where others might find it.

Other options

So far, you've seen that DTFADMIN can provide a report detailing the security for a database. The utility has several other useful options. For one, you can prepare a report detailing the security for multiple databases. This can be useful for a system administrator who wants to check the passwords people are using. Unlike many network operating systems, Q&A security doesn't incorporate features that force users to change their passwords or control what sort of passwords they use. The administrator can check to see whether users are changing their passwords periodically, and whether they're using insecure passwords such as names of pets, birthdays and the like. In the earlier example, you can see that users BRENNAN, JACKSON and KENNET might well be in breach of such rules.

Documenting security for multiple databases

The mechanism to document multiple databases sounds arcane but is versatile and extremely easy to implement. A text file is prepared, with any name but with an .ini extension, and this is referenced at the command line instead of a database name. Here's a sample .ini file:

```
SCHOOL.INI

// This is a sample DTFADMIN .INI file
// Created 20 May 98 by Alec Mulvey

ACADEMIC
PUPILS
OLDGIRLS
HONOURS
STAFF
ROOMS
PREPSCHL
```

Your comments must be preceded by //. The command to document all these databases becomes:

```
DTFADMIN SCHOOL.INI (To output the report to screen)
DTFADMIN SCHOOL.INI LPT1 (To output the report to printer)
```

Security report for one user

Using DTFADMIN it's also possible to print a security report for one user. You do this using an .ini file and a feature from DTFPASWD (which I'll discuss later). The text file must be given the name DTFPASWD.INI. When this file is specified on the command line as follows, for example, you are asked which user name you want to "filter":

```
DTFADMIN DTFPASWD.INI LPT1
```

The report then includes only those databases having *that* user named at the Security Spec. There's an option to show the information for other users as well, but this is less useful. A good implementation of this "single-user" mode is to print out the Security Report for one user, with passwords, and give this to a new employee. Or, to show a user that his or her passwords differ between databases—usually an undesirable situation, and one that can be bothersome to rectify without DTFPASWD.

DTFADMIN accesses Q&A databases in shared mode, so you can run it while the databases are in use.

DTFADMIN is an indispensable tool for those responsible for security measures on a system involving more than three or four databases and more than three or four users or user groups. It allows the administrator to review and document the security precautions in place, and how users are managing their passwords.

DTFADMIN and DTFPASWD are available from John T. Dow (412-521-1577, jtd@pgh.net), or in the UK from Alec Mulvey, details below.

Alec Mulvey is a Symantec Approved Consultant and Microsoft Certified Trainer. He runs Keyword Training & Consultancy based in Ascot, near London, England. Alec@KeywordTraining.com, Fax: +44-1344-884-111.

More Powerful Totals-Only Reports



JEFF NITKA

Sometimes Q&A's report facilities can't deliver what you really need, like a summary report sorted by its calculated totals. Ah, but where there's a will...



Q&A's columnar report capabilities are quite good, but there are two things about a special kind of columnar report that bug me. It's the *summary* report—where you want to exclude all the detail and get totals only. A sample report with this kind of output is shown in Figure 1. The first problem is wasted space. Ideally, the subtotal should be on the same line as the item. The other problem is that you can't sort the output on the computed (summarized) totals, something that can be very useful for tracking buying or selling trends.

Considerations

In some report writers, designing a report that sorts on subtotaled values involves performing more than one *pass* through the data. An initial pass performs the calculations, and a second pass performs the sort. Our job is to create the initial report and somehow store its data in a way that facilitates a second or *sorting* pass. One technique involves designing the report in such a way that the rows of output can be imported into a database as an ASCII file. Once the data has successfully been imported, you have the ability to sort the data in more ways than was previously possible.

The approach I'll discuss involves a clever technique by Gordon Meigs and Bobbi Baker (which I'll call the "Gorbi" technique) in the November 1997 *Quick Answer* (p.8). The Gorbi approach limits the number of columns the report can contain, but it's a very good starting point in developing such a technique.

It should be noted that this approach is restricted to reports that, during the first pass, calculate subtotals for single items. This technique works fine for a report that sorts sales by product, for example, but it would bomb if you wanted to sort sales by product *and* by customer.

What Q&A offers vs. what Gorbi offers

Figure 1 shows the kind of output that Q&A generates when you select the *Print Totals Only* option on the Report Print Options Screen. Figure 2 shows the same data using the Gorbi approach. As you can see, the Figure 2 output is much cleaner than Figure 1. However, the Gorbi

solution is heavily dependent on the use of derived columns. Depending on the number of columns in the report output, the 16 available derived columns could be exhausted rather quickly for basic reports.

Gorbi in action

The Gorbi technique isn't difficult to implement. All you'll need is a simple database (I'll call it *PROCESS.DTF*) and a macro. I'll approach the problem using an invoice database (which I'll call *INVOICE.DTF*) in which each record represents the sale of a single item. We'll design a report that will output each item number, the total units sold for that item, and the total sales for that item.

First, we'll design a report in *INVOICE.DTF* that outputs subtotals only. For this one, we want the item number or ID, the total units sold, and the total dollar sales. Here are the report specifications using the Gorbi method. (The report is named *First Pass*):

```
Item ID: 1,AS,I
Units Sold: 2,I
Total Sales: 3,I
```

Derived Column Specs:

Heading	Formula	Col. Spec
Sls SubTotal	@Total(#3,#1)	40,I
Units SubTotal	@Total(#2,#1)	50,I
;	@Txt(#1<>#200,#1)	60
;	@Txt(#1<>#200,",";)	70
;	@Txt(#1<>#200,#50)	80
;	@Txt(#1<>#200,",";)	90
;	@Txt(#1<>#200,#40)	100
Repeat ItemID	#1	200,I

Item ID	Units Sold	Item Sales
77202		

Total:	12	\$129.00
77202-1		

Total:	4	\$50.00
77207		

Total:	10	\$107.50
77207-1		

Total:	4	\$50.00
77218		

Total:	12	\$129.00

Item ID	Units Sold	Item Sales
77202	12	129
77202-1	4	50
77207	10	107.5
77207-1	4	50
77218	12	129
77218-1	4	50
77291	10	107.5
77291-1	4	50
B25BLK	168	2688
B25BRN	67	1072
B25DOL	89	1424
B29DST	30	1350
B29STW	66	1056
B30MCH	116	1624
B30STN	143	2002
B36NAT	106	1378
R07DST	26	624
WU1921	113	1808
WU2102	116	1624

Figure 1. Q&A's typical Totals-Only report.

Figure 2. Output using the "Gorbi" technique.

After filling in this information, press F10, select DISK as the Print To option, then press F10. Sample output for such a report is shown in Figure 3.

The next task is to design a database to store this report output. We'll create PROCESS.DTF, which simply requires one field for each column of output, placed in the same order as they appear in the report. For our purposes, PROCESS.DTF contains Item ID (a text field), Units Sold (a number field), and Item Sales (a money field).

Once PROCESS.DTF is created, we need to design the report format we want. For our purposes, let's say we want to see item sales sorted by descending sales. For this report (name it *Second Pass*), you can choose any output device you want. As an example, consider the following Column/Sort Spec:

```
Item ID: 1
Units Sold: 2
Item Sales: 3,DS,R
```

We're ready to rock.

To begin the process, choose Report from the Q&A Main menu, then choose Print a Report. Choose INVOICE.DTF as the database, then choose the *First Pass* report. When prompted to make changes, answer *Yes*, and fill in the Retrieve Spec according to your needs. Once this is done, you activate a macro by pressing the Alt-R hotkey, which performs all the necessary steps to produce the final report. Here's the macro:

```
<begdef><altr><name>"Run<sp>Report"<vidoff><f10><f10><f10>
ioutput.txt<enter><lf><enter><esc><fr<capsf4>process<enter><enter>
<f10><lf><enter><esc><esc><esc>fuis<capsf4>output.txt<enter>
<capsf4>process<enter><f10><home><enter><home><rgt><f10><esc>
r<enter><enter>--..<f10>y<esc><esc>rp<capsf4>process<enter>
second<sp>pass<enter> <enter><enddef>
```

What the macro does

1. Runs *First Pass* and saves the output to a text file named Output.txt.
2. Removes all records in PROCESS.DTF.
3. Imports the data from Output.txt into PROCESS.DTF.
4. Removes from PROCESS.DTF the record containing the separator dashes.
5. Runs *Second Pass*, providing the desired output as shown in Figure 4.

Final thoughts

You might be wondering about reports that include more than the three columns we've used for ours. As you can see, the demand on derived columns would quickly be exhausted. I've developed a more complex technique that doesn't use derived columns at all, but it's quite specific to the report output I was after. Suffice it to say that if you require increased sorting capabilities for summary reports that perform subtotal calculations, there's bound to be a way you and Q&A can do it.

Jeff Nitka develops Microsoft Access and Q&A applications for Epoch Software (E-Mail: JNitka@compuserve.com). Jeff is the author of the Program Evaluator (a Q&A program debugging utility), SurfDrive (a Q&A disk drive reader), and FaxMan (a Q&A faxing database), all of which are available from Marble Publications.

[Over the years we've shown a variety of ways to extend Q&A's data manipulation capabilities by turning report output into an export file, then importing it into another database. In fact, The Quick Answer Cumulative Topic Index at www.quickanswer.com is compiled for Web publication entirely in Q&A using this technique. See the January 1998 issue. Also see: August 1991, August 1992, October 1996, June and October 1997, and April 1998. — Ed.]

Item ID	Units Sold	Item Sales
77202	12	129
77202-1	4	50
77207	10	107.5
77207-1	4	50
77218	12	129
77218-1	4	50
77291	10	107.5
77291-1	4	50
B25BLK	168	2688
B25BRN	67	1072
B25DOL	89	1424
B29DST	90	1350
B29STW	66	1056
B30MCH	116	1624
B30STN	143	2002
B36NAT	106	1378
R07DST	26	624
WU1921	113	1808
WU2102	116	1624

Item ID	Units Sold	Item Sales
B25BLK	168	\$2688.00
B30STN	143	\$2002.00
WU1921	113	\$1808.00
WU2102	116	\$1624.00
B30MCH	116	\$1624.00
B25DOL	89	\$1424.00
B36NAT	106	\$1378.00
WU2166	98	\$1372.00
B29DST	90	\$1350.00
B25BRN	67	\$1072.00

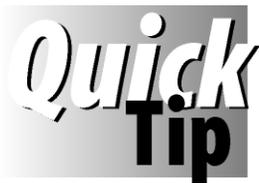
Figure 3. The totals-only disk report from INVOICE.DTF, ready for import into PROCESS.DTF.

Figure 4. The final report from PROCESS.DTF, sorted by descending dollar sales.



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Handy Table View Feature



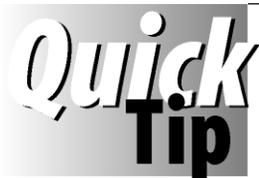
To include a particular field in Table View, you don't need to "Define Table View." Simply place the cursor

in the field, then press Alt-F6. Q&A will automatically make it one of the Table View columns.

Before Defining a Table View (Shift-F6) for the first time, you should name and save Q&A's *default* Table View Spec (where all

fields in the database are numbered sequentially by 10s). To do this, press Shift-F6 for Define Table View, then press Shift-F8. Save the default Table View to a name such as "Default" or "All fields in order." This way, you won't have to re-create the default Spec should you ever need it.

ALEC MULVEY



Moslow.com and Windows 95



In the August 1997 *Quick Answer*, I talked about Moslow.com (or Mo'Slow.com), a utility that can be

used with today's fast PC's, particularly Pentium II's, to slow down the processor enough to allow Q&A 5.0 to run properly. I showed the following command line example to slow a fast processor to 95% of its rated speed:

```
moslow /95 qa.com
```

This is correct, except that there's a quirk in Windows 95 that makes it fail if used in the command line of a Desktop shortcut

for Q&A. You'll receive the Windows error message, *Cannot find the file 'C:\QA5\Moslow...* To make Windows run the utility, simply add the file extension to moslow, like this:

```
moslow.com /95 qa.com
```

Links to the Web site where you can get Moslow.com are on *The Quick Answer's* Web site at www.quickanswer.com (on the *Freebies* page) and the National Q&A Users Group Web site at www.qaug.com. (See also the March 1998 issue , p.8.)

GORDON MEIGS



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