Useful Tricks with Posted Text

What happens when you tell Q&A to *add* text values in a Batch Post—and why would you want to? By finessing the source value and target field, you'll get a pleasant and useful surprise—Q&A will post your multiple text values in perfectly aligned columns.

By John Kell

DOS

I thought my Q&A accounts payable application covered all the bases, then a client threw me a curve. When paying suppliers, the client wanted to include a check stub listing all the invoice numbers and amounts the check was paying. A single check might pay up to 30 invoices. Figure 1 shows the check writing form and stub the client had in mind. The invoices being paid, along with their amounts, are listed in the stub's multiline Check Memo field.

The challenge

Because the client was using a database—INVOICE.DTF—to store unpaid invoices (payables) and their amounts, I couldn't very well ask him to retype this information on the check stub. The application already calculated the total check amount from the INVOICE records and posted it to the check's Amount field, so the challenge was how to copy—from the INVOICE records to the stub—the individual invoices and amounts that comprised the

Figure 1. A sample check and stub that includes the invoice numbers and amounts the check is paying. The odd range of invoice numbers and amounts demonstrates how you can make Q&A position the items in perfectly aligned columns on the stub.

C O N T E N T S

README.1ST

WE had planned to include a couple of Q&A 5.0 articles this month, but with the upgrade's ship date moved back to September, it's unlikely you'll have it installed earlier than October. (All the more reason why you should attend our special September 15 day-long Q&A 5.0 seminar—see page 3.) I don't think you'll be disappointed, though, because this issue contains lots of innovative techniques to help you be more productive with Q&A 4.0—techniques that are just as valuable with Q&A 5.0.

John Kell, who develops in Q&A and leads the Wisconsin Q&A user group, stumbled onto an interesting detail having to do with the way Q&A Batch Posts text. Normally, you'd use Replace, not Add, when posting text. (After all, what's to add?) But if you specify Add, and multiple source records are involved, Q&A separates the posted values with a space. "Big Deal," you might think, but it opens the door to exciting new posting possibilities. For example, John's application required a vertically aligned two-column memo list comprised of values from an external database—and he was able to create it by Batch Posting. John's approach is bound to stimulate ideas for applications with unusual posting requirements.

How do you make a Write document merge information from two, three, or four databases? Though you can program a document to retrieve data from external databases, Q&A limits you to 16 such programming expressions, and none can be longer than 80 characters. If you can't live inside these walls, find out how **Bill Halpern** scales them.

Though it's no secret that you can run Q&A for DOS in Windows—a surprising percentage of *The Quick Answer* readers do—you can take even greater advantage of the Windows environment if you know a few tricks. **Dave Dvorin** gives you the benefit of his long experience running Q&A for DOS in Windows, and you're sure to pick up a few pointers.

Tom Marcellus
Editor

Q&A User Group Bash Set for Mid-September

Plan now to attend the National Q&A User Group's 5th Annual Bash, September 15–17, 1995, just outside Washington D.C. Hobnob with fellow Q&A enthusiasts, meet and hear top Q&A developers, and attend solution-oriented seminars and workshops. Bring your nagging Q&A questions and brilliant solutions. Spend three relaxed and informative days with a fun-loving user group. Registration is $45 for *The Quick Answer* subscribers (includes user group membership). Call 301-963-6377, leave a message, and a user group official will call you back with the details.

MARBLE PUBLICATIONS

Text Tricks

check total. Not only did I have to make the resulting stub look good, I had to automate the process.

New application elements required

My first step was to add a Check Memo field to the stub of the check writing form (see Figure 1). Check Memo is a single multiline text field the same width as the check. I used the "<" and ">" characters to define the beginning and end of the field, making it perfectly rectangular.

INVOICE.DTF—the payables database—originally included just the first three fields shown in Figure 2. My next step was to add a fourth field (Line-item) to store the combined invoice number and amount.
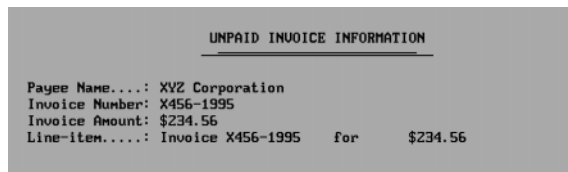
I programmed the Line-item field to create a combination value consisting of the word "Invoice," the invoice number, the word "for," and the invoice amount. Listing 1 shows the Program Spec ID numbers for the four INVOICE fields, followed by the Line-item's program.

Listing 1. The Line-item field's program.

```
Payee Name    : #10
Invoice Number: #20
Invoice Amount: #30
Line-item     : #40

<#40: #40 = #30 * 100; #40 = @Right(#40, 2);
 If @Right(#40, 2)="00" Then {#40=#30; #40=#40+".00"}
 Else
 If @Right(#40, 1)="0" Then {#40=#30; #40=#40+"0"}
 Else #40 = #30;
   #40 = "Invoice" + @Right("           " + #20, 12)
   + " for" + @Right("          $" + #40, 12);
```

The program does nothing more than manipulate text. When you copy money values to a text field, Q&A drops any trailing zeros along with the decimal point; the two If-Then statements in the second and fourth lines of the program bring them back.

Figure 2. The INVOICE database includes a record for each unpaid invoice. There might be up to 30 invoices for a given supplier.

The @Right functions in the last two lines pad the Line-item value with spaces to make it exactly 37 characters long—just the right length to create two columns in the multiline Check Memo field. (Depending on the text value you want to post and the width of your multiline field, you can experiment with this part of the program to make the Line-item value the right length. The objective is to prevent wrapping, so you wind up with two vertically aligned Check Memo Info columns.)

The next step was to summarize the invoice records in the CHECKTOT (check totals) database before posting them to the accounts payable database where the checks are printed. CHECKTOT, a summary or interim database, includes the three fields shown in Figure 3: Payee Name, Check Total, and Check Memo Info. The multiline Check Memo Info field is a duplicate of the Check Memo field on the check stub.

The sample CHECKTOT record in Figure 3 shows eight invoices totaling $36,050.31 for XYZ Corporation. I now had all the application elements in place—the Check Memo field on the check stub, the Line-item field in the INVOICE database, and the CHECKTOT database. The finishing touch was to create a macro to perform the necessary steps—that is, summarize the payee's open invoices in a CHECKTOT record then post the information to the accounts payable database for printing. Here are the steps the macro performs:

1. Runs File / Remove / Selected Records to delete all previously paid CHECKTOT records.

2. Runs File / Copy / Selected Records to copy the unpaid invoices from INVOICE to CHECKTOT. This process uses the Merge Spec to copy just the supplier's name to CHECKTOT's Payee Name field.

How Q&A Posts Text Values when You Specify "Add"

I didn't know this until I tried it, but Batch Posting can do more than add numbers—it can add text values as well.

In my application, there could be several unpaid invoices for a given payee, in which case the Line-item field from *multiple* INVOICE records will be posted to CHECKTOT's multiline Check Memo Info field. By making this post an Add operation, Q&A posts the Line-item value from the first matching record as you'd expect. It then posts the same field from the next matching record, placing it to the right of the first posted Line-item (see Figure 3). Q&A posts the third record to the *second* line of the same target field, the fourth record to the right of it, and so on for as many INVOICE records as are posted, creating a perfectly aligned two-column list of Line-items in the target field.

3. Runs File / Remove / Duplicate Records to remove duplicate records from CHECKTOT. This way, you wind up with one target record per payee to Post to.

4. Runs File / Post from INVOICE to CHECKTOT. Payee Name is the matching field in both databases. A Post Add operation accumulates the Check Total for each payee. The same Posting Spec Adds the Line-item field to the Check Memo Info field.

(See the Sidebar to find out how this works.)

5. To complete the process, the CHECKTOT records are posted directly to the accounts payable database. A Mass Update is then run on the records that don't have check numbers (the newly posted checks). The Update program assigns check numbers, looks up the address information (in another database), then converts the check amounts to their text equivalents so that $335.50, for example, is converted to the following:

```
Three Hundred Thirty Five Dollars & 50 Cents****
```

Central to this application is Q&A's ability to Batch Post text values in such a way as to create neatly aligned columns in the target field. It would be far more difficult, if not impossible, to achieve similar results using XLookups. You can, of course, adapt this technique to a variety of requirements, including applications where you need to auto-update a history field containing a summary of transactions or other line-item-like entries.

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[For more on designing a check-writing database—and a program to convert dollar amounts to text equivalents—see "Automate Your Check Writing and Printing" in the January 1995 issue. For a technique to create a single-column list in the post target field, see "Use Posting to Maintain Transaction Histories" in the July 1995 issue.—Ed.]


```
                CHECK TOTALS INFORMATION

   Payee Name.....: XYX Corporation
   Check Total....: $36,050.31
   Check Memo Info
   Invoice X456-1995    for      $234.56 Invoice 995         for      $11156.99
   Invoice BD432-1995   for       $44.45 Invoice JD MOD B 995 for         $6.45
   Invoice 5Y7-1995     for       $45.56 Invoice A3AA1-1995   for         $3.45
   Invoice ZX-91995     for    $23555.45 Invoice 5-1995       for         $3.40
```

Figure 3. The CHECKTOT database is used to summarize each payee's invoices in preparation for check printing.

QUICKTIP

Using Documents in Databases

DOS

I manage two databases (one for vendors and another for orders) for a large purchasing department. Several times a year, I place orders for the same material—the description of which is quite lengthy. After typing the initial description into the order, I found I could move to that field, press F6 to expand it, press F8 for Options, select Block Operations, Copy to File, and assign a filename to the description, such as C:\QA4\DOCS\BOLTS. Then, on each subsequent order, I could move to the description field, press F6 then F8, choose Documents, Insert a document, enter the same filename, and retrieve the description into the field.

Even simpler, though, is to use Search/Update to retrieve the previous order, press Ctrl-F6 to add a new record, then press Shift-F5 to Ditto record. Then, in the new record simply change any field that doesn't apply to the current order and retain the lengthy material description.

Patricia P. Dominguez, New Orleans Public Belt Railroad, New Orleans, Louisiana.

QUICKTIP

Posting in Q&A for Windows?

DOS WIN

Suppose you need to post data from every source database record to a destination or target database that might not contain a matching record for each record in the source database? If you're using Q&A for Windows, you have two problems. First, Q&A for Windows doesn't support posting. But even if you had a technique that simulated posting, how would you create the missing target records to post to?

I post employees' yearly retirement contributions from a mainframe file, which I import into Q&A and rename POSTFILE.DTF, to a cumulative contribution file (DESTFILE.DTF) that contains a record for each employee. However, new employees hired during the year aren't in DESTFILE.

Here's the Q&A for Windows technique I use to create new DESTFILE records, then, in effect, post to them. You might be able to adapt it to your own application:

1. I Mass Update all the records in POSTFILE by specifying the Social Security number (SSN) field as #1 at the Update Spec and adding the following program to the Found in DESTFILE? field:

```
#2: XLookup("DESTFILE",#1,"SSN","SSN",#2);
        If #2 = ""
          Then #2 = "No"
        Else #2 = "Yes"
```

2. Because the POSTFILE records that aren't in DESTFILE are now marked "No," I can copy the SSN and Name fields from them to DESTFILE. The Retrieve Spec parameter for the Copy operation is simply "No" in the Found in DESTFILE? field.

3. I then Mass Update DESTFILE using the following Update Spec:

```
 SSN: #1
1994: #2:
XLookup("POSTFILE",#1,"SSN","Contribution",#2)
```

I set my calculation statements option to Yes to have Q&A add the new contribution value to the cumulative contributions field.

If you're using Q&A for DOS, you can either run both Mass Updates described earlier, or you can Post in the usual way. Just be sure your calculation statements are set to Yes so the new data will be added to the cumulative total field.

If your own "DESTFILE" contains a lot of programming, you might save time by setting up a Found in POSTFILE? field and performing a Mass Update similar to step 1. You can then use a "Yes" in that field as the Retrieve Spec parameter for your DESTFILE Mass Update in step 3. This way, you can avoid recalculating records that don't require it.

A. C. Tynes, Metairie, Louisiana

The Secrets of Running Q&A for DOS in Windows

Sure, you can run Q&A for DOS in Windows. You can run most any DOS program in Windows' full screen mode. But you can do a lot more if you know a few tricks.

By David E. Dvorin

WINDOWS-compatible editions of popular DOS programs have long since arrived. Normally, Windows versions retain the features of their older DOS counterparts while incorporating new ones, but Q&A for Windows is an exception. Although Q&A for Windows includes features not present in Q&A for DOS, it doesn't support posting, macros, and crosstabs. With the Q&A 5.0 upgrade, that gap is even wider. This creates a dilemma for Q&A users who need these features but prefer to work in Windows. The middle path for many is to run Q&A for DOS in Windows.

If your PC has at least a 386 processor and 2M of RAM (a 486 with at least 4M RAM is recommended) Windows 3.1 can be more than just a friendly environment for you and Q&A. It offers amenities such as a cross-application Clipboard to pass data from one program to another, the ability to run two or more applications at the same time, quickly switch between them, and more. I'll show you how to install and run Q&A for DOS in Windows and use some of Windows' features you'll then have available. This way, you can decide if running Q&A for DOS in Windows makes sense for you.

Get your PIF in order

To get the most from Q&A for DOS in Windows, you should supply Windows with a Program Information File (PIF) for Q&A. The PIF tells Windows about your program, such as its minimum and desired memory needs, the mode in which to run it, start-up options, and so forth. To create or edit a PIF, you use Windows' PIF editor, usually located in the Main program group in the Program Manager.

Fortunately, Q&A 4.0 for DOS comes with two ready-made PIFs. If you have at least a 386 processor and 2M of RAM, select the QA1MB.PIF. You'll find it in your Q&A program files directory. If it's not there, you can selectively install it from your Q&A master disks.

Start Windows, and double-click on the PIF Editor icon to display the PIF Editor dialog box. Pull down its File menu, and click on Open. In the File field, enter Q&A's drive and path, along with QA1MB.PIF. If Q&A resides on your C: drive in the QA4 directory, enter C:\QA4\QA1MB.PIF. The screen should look like Figure 1.

You can change the Window Title from Q&A 4.0 to Q&A 4.0 for DOS. You can also use the Optional Parameters field to enter any start-up switches, such as an autoload macro or initial database. Otherwise, you should leave the defaults as they are.

Exit the PIF Editor by pulling down its File menu and clicking on Exit. If you made any changes, click Yes when Windows prompts you to save them.

Add your Q&A icon

With your Q&A for DOS PIF ready, you can create a Q&A program group for your Q&A icon. Or, you can place the icon in an existing program group. (You can optionally place it in Windows' StartUp group if you want Q&A to start when you start Windows.)

Q&A for DOS 4.0 comes with an icon of its stylized logo in a file named QA.ICO. If you initially
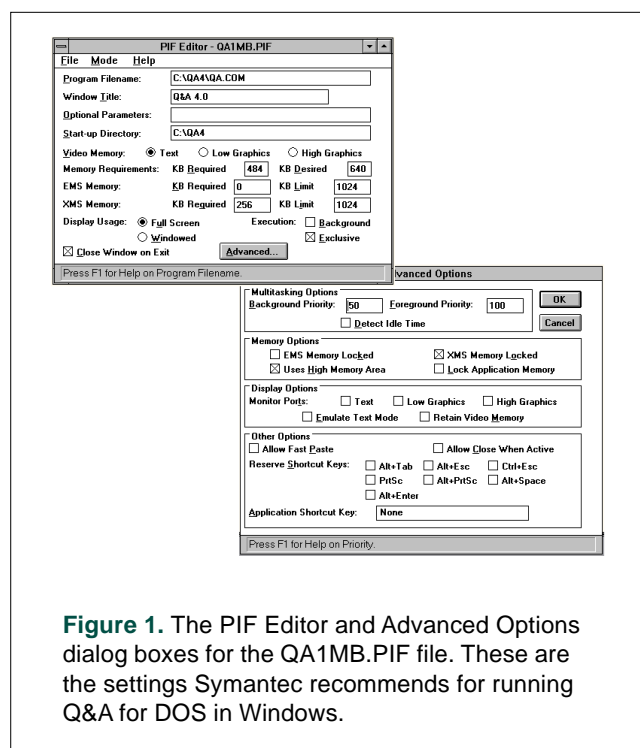
Figure 1. The PIF Editor and Advanced Options dialog boxes for the QA1MB.PIF file. These are the settings Symantec recommends for running Q&A for DOS in Windows.

performed a complete Q&A installation, you'll find QA.ICO in your main Q&A directory. If it's not there, you can reinstall Q&A from your master disks, using the selective option to install just the icon file.

To create a Q&A program group, from Program Manager, pull down the File menu and click on New. In the New Program Object dialog box, click on Program Group, then click OK. In the Program Group Properties dialog box, type Q&A in the Description field, then click OK. This creates and opens a new program group named Q&A, and you can now place your icon in it.

With your new Q&A Program Group open, pull down the File menu, and click on New. In the New Program Object dialog box, click on Program Item, then click OK. In the Program Item Properties dialog box, type Q&A in the Description field. In the Command Line field, enter the full path to the Q&A PIF file—C:\QA4\QA1MB.PIF, for example.

Next, click on the Change Icon button. Windows will tell you there are no icons for Q&A, but not to worry. Click OK, and the Change Icon dialog box will appear. In the File Name field, type the full path to QA.ICO. (In our example, this would be C:\QA4\QA.ICO.) Click OK, and you'll be returned to the Program Item Properties dialog box where the stylized Q&A icon will appear. Click OK, and your Q&A icon will be installed in the Q&A program group.

Run Q&A for DOS in a window

You're ready to roll. Double-click on the Q&A icon to start Q&A. It should start in full screen mode and look exactly as it does when running in DOS. Press Alt-Enter, and Windows will switch Q&A into

Figure 2. The Window Control menu. Inapplicable selections will be dimmed.

Your Mouse is Alive and Well

You don't have to give up your mouse when you run Q&A for DOS in Windows. As far as I've been able to determine, if you were using a mouse with Q&A while running it in DOS, you'll continue to have mouse control when running it in Windows in full-screen or window mode.

window mode (running Q&A in a smaller window). Press Alt-Enter to toggle Q&A between full screen and window mode. Though Q&A is fully functional in either mode, the amenities I mentioned earlier are available only when Q&A is running in window mode.

Control menu options

All programs running in a window contain a small horizontal bar in the upper left corner of the window called the Window Control menu. If you click on it, a menu will appear with these selections: Restore, Move, Minimize, Maximize, Close, Switch To, Edit, Settings, and Fonts (see Figure 2).

Of interest is the Edit selection because it makes Windows' Clipboard available to Q&A—or any DOS program—running in a window. Also of interest is the Settings selection, which gives you control over aspects of your DOS session window, such as multitasking. The Fonts selection lets you change the fonts used in the DOS session window, as well as increase or shrink the size of the window. I'll describe each of these in turn.

Full-featured Clipboard

Among Windows' handiest features is its Clipboard because you can use it to transfer information, such as a block of text, from one program to another.

Q&A for DOS has a clipboard, but its functionality is severely restricted. In the Write module, when you delete, copy, or move a block of text, Q&A places it in a buffer—a kind of clipboard—waiting for you to press Shift-F7 to paste it elsewhere. Q&A 4.0's clipboard is limited to Write-related operations—you can't, for example, use it to transfer information from a document to a database, between databases, or from one database field to another. (Q&A 5.0's clipboard includes these additional capabilities.)

In contrast, Windows' Clipboard knows virtually no bounds. It lets you copy text, screen prints, graphics, and just about anything else between applications. This includes copying text from a DOS application to a Windows application, vice versa, and even between DOS applications. I'll show you how this works using a Windows spreadsheet program and Q&A for DOS.

Windows to DOS transfer

In this scenario, you'll copy a portion of a Windows spreadsheet to the Clipboard, then paste it into a Q&A Write document. With Windows running, start your spreadsheet program and load a worksheet. Minimize the program by clicking on the down arrow
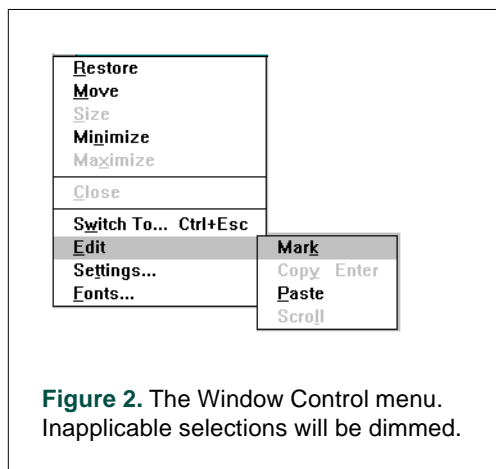
in the upper right corner of its window.

Next, start Q&A, and press Alt-Enter to run it in a window. Minimize Q&A by clicking on the down arrow in the upper right corner of its window.

Now, double-click on the spreadsheet icon to maximize the program, then select the portion of the spreadsheet you want to copy to a Q&A Write document. (In most Windows spreadsheets, you can select a range of cells by positioning the mouse pointer at the top left corner of the area you want to select, then holding the left mouse button down while dragging the pointer over the cell range.) Pull down the spreadsheet's Edit menu and click on Copy. This copies the selected cell range to the Clipboard.

Minimize the spreadsheet program again, then double-click on the Q&A icon. Open a Write document, or start a new one, and position the cursor where you want to insert the spreadsheet data. Click on the Q&A Window Control menu, click on Edit / Paste, and Presto!—the spreadsheet information is inserted. If you like, you can now press Alt-Enter to return Q&A to full-screen mode, and the inserted data will still be there.

You can follow the same steps to copy-and-paste information between any Windows and DOS application.

DOS to Windows transfer

Now let's perform a copy-and-paste in the opposite direction. Starting from a windowed Q&A Write document or database record, click on the Window Control menu. This time, choose Edit / Mark. Position the mouse pointer at the first character of the text block you want to copy, and hold down the left button while dragging the pointer across and down the block of text. When you've selected the text to copy, click on Edit / Copy (you can optionally just press Enter). The text is now in the Clipboard.

Minimize Q&A's window and double-click on the spreadsheet's icon. Click on the cell where you want to insert the text block. Pull down the spreadsheet's Edit menu, select Paste, and Voilà!—your Q&A Write text is inserted in the spreadsheet cell.

When performing a DOS to Windows copy-and-paste operation, you can copy only one DOS screen at a time. For example, if you want to

Options When Running Q&A for DOS in Windows

In addition to the advantages already mentioned, you have other options when running Q&A in Windows, including these:

- With Q&A running in either full-screen or window mode, you can press Alt-Tab to switch to another running program. Or, you can press Ctrl-Esc to display Windows' Task List, then double-click on a program to switch to it.

- With Q&A running in a full screen, you can press Alt-Spacebar to switch to window mode *and* display the Window Control menu. (Pressing Alt-Enter switches Q&A to window mode but doesn't display the Window Control menu.)

- With Q&A running in a window, you can optionally use your cursor keys to move to and highlight the text you want to copy to the Clipboard. Simply position your cursor, hold down the Shift key, use your cursor keys to select the text, then press Enter.

- While running Q&A in a window, you can move the window by clicking on the Title Bar at the top of the window and dragging it to a new screen location.

- You can click anywhere outside the Q&A window to minimize it. To maximize Q&A (redisplay its window), press Ctrl-Esc for the Task List or click on the Window Control button in the top left corner of the screen, then click on Switch To.

Windows allows you to *associate* filename extensions with applications. Using this feature, you can double-click on a Q&A Write document in Windows File Manager to both start Q&A and load the file automatically. For example, I assign .QAD to my Q&A for DOS documents so I can double click on LTR_HEAD.QAD in File Manager to start Q&A with my letterhead displayed. (With DOS programs, any associated document files must reside in the same directory as the file that runs the program.)

To create the association, double-click on the File Manager icon (it should be in the Main program group), pull down the File menu, and select Associate. Enter the three-character filename extension you want to associate with your Q&A for DOS document (QAD, for example). Then, enter the path to QA.COM. (Using the earlier example, this would be C:\QA4\QA.COM.) If you're unsure about the path to your QA.COM file, click on the Browse button and search your drives and directories. When you've located the file, double-click on it, then click OK to save the association.

copy several pages from a Q&A Write document, you'll need to repeat the cut-and-paste operation for each page.

Keep in mind that when you copy text to the Clipboard, anything already in the Clipboard is replaced by the new text. If you want to copy two non-contiguous document paragraphs, for example, you'll have to copy and paste them separately.

DOS to DOS transfer

Combining the two copy-and-paste techniques described earlier, you probably already understand what it takes to copy-and-paste information between two DOS applications running in window mode. Starting from one of the programs, click on the Window Control menu and choose Edit / Mark. Using your mouse, highlight the block of text you want to copy, then select Edit / Copy, or press Enter.

To paste the information into the second windowed DOS program, position the cursor where you want the text inserted, click on the Window Control menu, and choose Edit / Paste.

Settings

The Settings selection on the Window Control menu displays a dialog box with four groups of options (see Figure 3). These options allow you to control how your DOS session is executed and displayed and let you set your multitasking parameters.

The options available in the Settings dialog box are also in the PIF. (The PIF contains your defaults.) Changes in the Settings dialog box take affect immediately, but only for the current Q&A session. If you want to set new defaults, change them in the PIF Editor, and they'll take affect the next time you start Q&A.

Display Options

The Setting dialog box's Display Options (called Display Usage in the PIF dialog box) are Window and Full Screen. They have the same effect as when you press Alt-Enter to switch between full-screen and window mode. Though running Q&A for DOS in a window gives you access to Windows' features, you'll pay a price in memory usage. More memory is required to run a DOS program in a window, making less memory available for other programs. Because of this, you might want to run Q&A in full-screen mode and switch to window mode only when necessary.

Tasking Options

Tasking Options (called Execution in the PIF dialog box) include Background and Exclusive. Choose Background if you want Q&A to generate a report, perform a Mass Update, run a macro, do a mail merge, and so forth while you're working in another program. The price you'll pay for background operation is speed because you're multitasking—making your PC juggle multiple tasks. The Exclusive setting means Q&A for DOS operations can be performed only when Q&A is the active application.

Tasking Priorities

Priority options (called Multitasking Options in the PIF dialog box) control how Windows allocates resources while multitasking. It's beyond the scope of this article to explain how best to allocate multitasking resources between background and foreground programs. The default foreground and background priorities are 100 and 50, respectively, and the permitted values range from 0 to 10,000. The values you set are your priorities for Q&A relative to any other active applications. Because you can have several programs running, you can't translate priorities into a fixed percentage of your computer's time. Generally, though, the higher a program's Priority value, the more resources Windows will allocate to it.
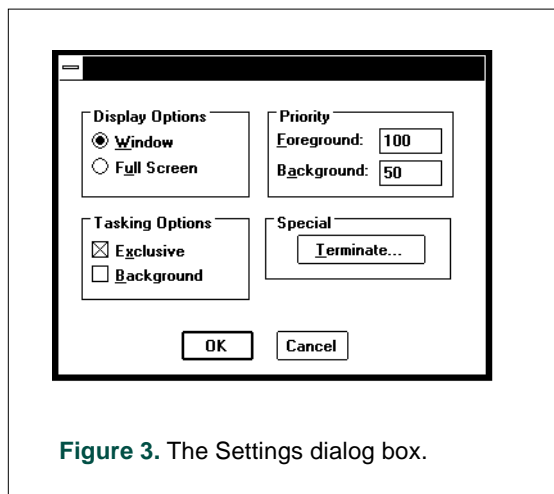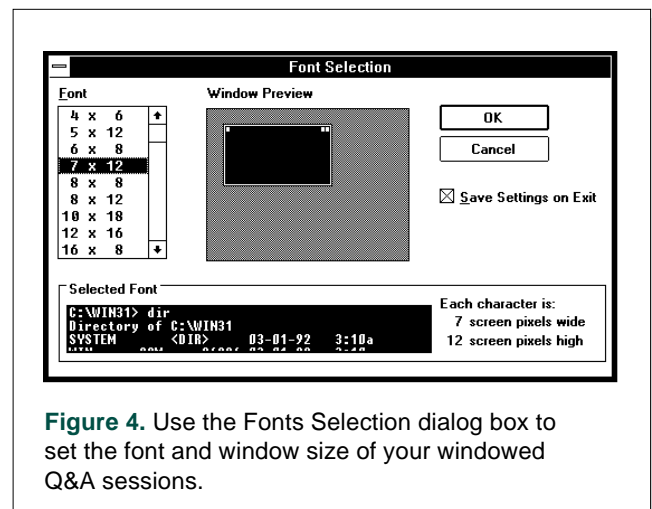

Figure 3. The Settings dialog box.

Figure 4. Use the Fonts Selection dialog box to set the font and window size of your windowed Q&A sessions.

Fonts and window size

Use the Fonts selection on the Window Control menu to change the window and font sizes of your windowed Q&A session. You'll see three areas: Font, Selected Font, and Window Preview (see Figure 4). The entries in the Font list represent the number of screen dots (called picture elements, or *pixels*) that make up the characters. Click on an entry in the Font list. You'll see a sample of that font in the Selected Font field, and the Window Preview will display the corresponding relative window size. You can mark the check box to save your settings, or you can first see what your changes will look like by clicking OK to return to your Q&A window (see Figure 5).

Conclusion

When you setup Q&A for DOS in Windows, you're modifying Windows, not Q&A. As far as Q&A is concerned, nothing has changed. This means you still have the option of running Q&A in DOS as you always have—and there may be times when you'll want to do so. Running Q&A in Windows can decrease performance, depending on the task you're performing, and especially if RAM is scarce and other applications besides Q&A are loaded. You might not notice any difference until you run a memory-intensive operation. On the other hand, if you have a powerful PC with lots of RAM and a fast hard disk—and you're not multitasking—the difference in performance might be non-existent or negligible. The only way to know is to experiment.
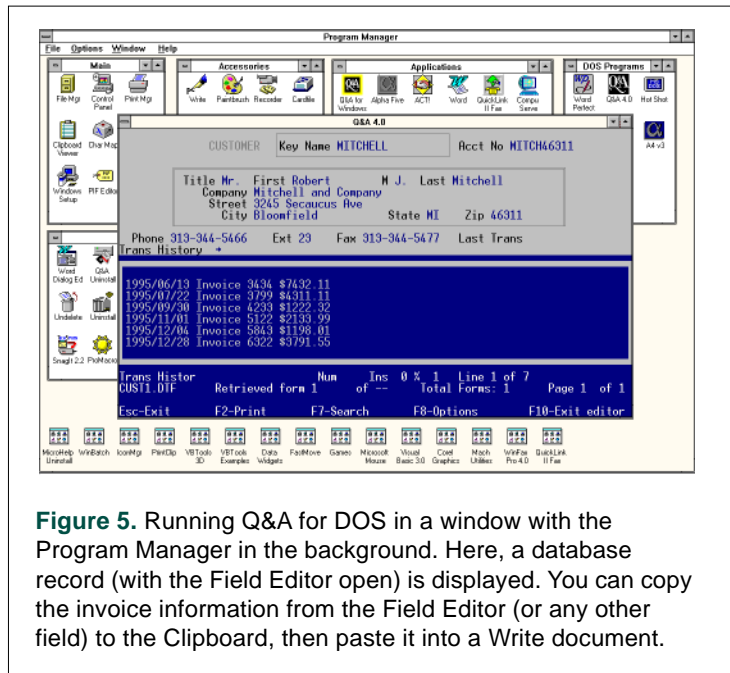
Figure 5. Running Q&A for DOS in a window with the Program Manager in the background. Here, a database record (with the Field Editor open) is displayed. You can copy the invoice information from the Field Editor (or any other field) to the Clipboard, then paste it into a Write document.

The more you use Windows during your workday, the more you'll benefit from having Q&A set up to run in the same environment. Though you can always exit Windows to run Q&A in DOS, then exit Q&A and restart Windows, the convenience of *quickly* switching between programs and tasks will grow on you.

David Dvorin owns Phoenix Solutions of Hillsborough, New Jersey, which specializes in tailoring off-the-shelf software for a broad range of business needs. 908-281-6272.

QUICKTIP

Mark Records for Previous or Following Month

DOS WIN

I use a Q&A database to track subscriptions to my club's newsletter, and I routinely Mass Update the database to mark records for renewal notices. The problem was finding an appropriate Update expression that

would work when the current month is December or January and the pertinent records are dated January or December, respectively. The following program does the job. In this case, field #40 is the SubsDue (date) field and field #50 is marked with an "R" to represent a renewal reminder:

```
If @Month(#40) = (@Month(@Date) +1)
and @Year(#40) = (@Year(@Date)) then #50 = "R"
Else
{If @Month(#40) = (@Month(@Date) -11)
and @Year(#40) = (@Year(@Date) +1) then #50 = "R"
Else #50 = ""}
```

Roger Skidmore, Isle of Wight, United Kingdom

QUICKTIP

Simple Programs Speed Data Entry

`DOS` `WIN`

I live in a small city with a single ZIP code. There are several surrounding cities that also have their own ZIP codes. The majority of entries in my database are for addresses in these one-ZIP code cities, so I programmed my State and Zip fields to automatically place the correct ZIP code and state into the respective fields once I've typed in the city. These simple programs save me a lot of keystrokes:

```
 City: #1
State: #2
  Zip: #3
```

Here's the State field program:

```
If (#1 = "Camden") then #2 = "SC"; and so forth
```

Here's the Zip field program:

```
If (#1 = "Camden") then #3 = "29020"; and so forth
```

I also needed Q&A to calculate the ages of people based on their birthdates. I found the solution in one of Symantec's *Fax on Demand* technical bulletins. Because I already had a Birthdate field, I added an Age field to the database, then programmed it like this:

```
Birthdate: #1
      Age: #2

<#2: #2 = @Year(@Date)-@Year(#1) - ((@Month(@Date) <
@Month(#1)) or (@Month(@Date) = @Month(#1) and
@Dom(@Date) < @Dom(#1)))
```

This little program has saved me hours of manual calculations.

Debbie P. Lane, Kershaw, South Carolina

[With regard to the state and ZIP code programs, you could optionally list your cities in the Key column of the Lookup Table, and place their corresponding states and ZIP codes in columns 1 and 2. You could then simplify your program, like this:

```
Lookup(#1, 1, State); Lookup(#1, 2, Zip)
```

—Ed.]

QUICKTIP

Make Macros Work Universally

`DOS`

I hate having to modify macros to work on other computers with different drive designations and paths. I might record a group of application macros on my PC with C:\QA4\DATA and C:\QA4\DOCS paths only to find they'll be used on a PC with a network drive F: and different database and document paths.

I discovered a technique to make my macros perform on anyone's computer. Now I don't have to modify or rerecord macros for different Q&A setups and drive designations.

Consider this sample macro segment:

```
<begdef><nokey><name>"#000"<vidon>fa<capsf4><f10>CUSTOMER
```

This macro starts at the Q&A Main menu, so the "fa" commands represent File / Add Data menu selections. Nothing special about that; however, when you select File / Add Data, Q&A proposes the path and filename of the last database used in the current session, and you'll probably want the macro to open a different database. As long as that database is stored in the default database subdirectory specified in Utilities / Set Global Options, my technique works.

The <capsf4> (Shift-F4) command clears the *File name* line, and the <f10> command following it enters the default database path for the PC on which the macro is running, then displays the List of Files screen. As the sample macro segment shows, the <capsf4><f10> commands are followed by CUSTOMER, so this macro will open CUSTOMER.DTF in Add Data mode.

The technique works equally well for macros that load documents with the Write / Get command. In either case, the macro doesn't care what the database and document paths are, as long as they're the default paths specified in Global Options. This trick has saved me hours of development time and makes my macros work every time regardless of where they're being used.

John Kell, Computer Resources, Inc. in Schofield, Wisconsin. 715-359-8623.

Edited by Dave Reid

Conditionally Calculate a Running Total

`DOS` `WIN`

In your August 1994 issue, I read an article about maintaining a running total in a database. I applied the programming to my database and it works fine. However, a problem occurs when I retrieve records in Search/Update mode—the Total Purchases field changes to the current running total plus the old record's Purchase Amount. How do I keep this from happening?

James Juarez, University Park, Texas

Q&A is changing the values during Search/Update because the program isn't differentiating between Add and Update modes. To solve the problem, use the @Add context function, like the following, to make program execution conditional:

```
< If @Add Then {
place your existing programming here
}
```

With If @Add at the beginning of the program, Q&A won't calculate the running total unless you're adding records. If you want a program to execute only when updating records, use the @Update context function instead.

Speedy Retrieval Paradox

`DOS` `WIN`

I use a Speedy ZIP code field to retrieve records from a database of 10,000 records. When I type in a specific ZIP code at the Retrieve Spec, Q&A quickly finds the qualifying records and compiles the report. In a similar report, however, I use a Retrieve Spec expression to select the ZIP code. The expression consists of an @XLookup into a database with a single record and a single field containing the pertinent ZIP code. The result of the retrieval is the same records, but in this case Q&A doesn't use the index. Instead, it scans all 10,000 records to find those that qualify. How come Q&A uses the index in the first case, but not in the second?

Tom Marcellus, Costa Mesa, California

Sometimes Q&A can't use a Speedy (indexed) field when retrieving records. In your second case, it can't because your retrieval parameter (the pertinent ZIP code) is the result of an expression, and Q&A doesn't know in advance that the result of the @XLookup will be the same in every record. (You might be using data from each record to control the record being looked up. In this case, you aren't, but Q&A doesn't know that.) Accordingly, Q&A scans every record in the database looking for those that match the value returned by the expression.

[Bless you, Dave. I've since changed my ways. Q&A 5.0's new Clipboard feature lets me use a macro to paste my retrieval parameter (ZIP code) right into the Retrieve Spec, making the retrieval expression a now unnecessary workaround. Problem solved. —Ed.]

Swapping Macro Files

`DOS`

I have a number of specialty macros I use only occasionally, so I keep them in a file named OTHERMAC.ASC. I'd like to be able to load OTHERMAC.ASC automatically. I've tried creating a macro that presses Shift-F2, but that ends macro definition. I've even tried editing the macro to add the Shift-F2 key combination, but the macro stops working. Is there any way to switch macro files automatically? And by the way, how large can a macro file be before I have to split it into two files?

Jerry Altshuler, Chicago, Illinois

There are several ways to swap macro files. My personal favorite might prove the best for your situation. (Because you use these specialty macros only occasionally, I'll assume you want to default to your main macro file.) You can add an alternate program to the Q&A Main menu to start Q&A with an alternate macro file. In your case, add the following:

```
Alternate Program 6: qa -alOTHERMAC.ASC
Menu Selection.....: Other Macros
```

This way, you can press "O" from the Main menu to launch another Q&A session and load your specialty macro file. When you quit the second session, Q&A returns you to your initial session and the default macro file.

The ceiling on Q&A macro files is 32K. When yours approaches 30K, it's time to think about splitting it.

[With Q&A 5.0, the Alternate Programs feature is one of several such options. You can use the new External Programs menu to launch a second copy of Q&A (with an alternate macro file) from anywhere in Q&A. Or, you can use the new @Shell command to do the same thing from a database.—Ed.]

Highlight Negative Numbers

`DOS`

I'm eager to get my hands on the new Q&A 5.0 upgrade. I've heard that you can control field colors in 5.0 with programming. For years I've wanted to be able to color fields red when they contain negative numbers. Can you tell me if and how I'll be able to incorporate this feature into my databases?

Rob Kimble, Seattle, Washington

Q&A 5.0 lets you set field colors in several ways, including with programming. Following is a sample program that uses the new @Color command to set a field's color to bright white text on a red background. (It's a rather striking color combination that commands attention.) The @Color command's three parameters are the field to be colored, the foreground color, and the background color:

```
Field: > #1:
  If #1 < 0
  Then @Color(#1, 15, 4)
  Else @Color(#1, 7, 1)
```

The Else condition resets the field's color scheme should you change a negative number to a positive number. (In this case, the field is reset to turquoise on a blue background. If your fields are a different color, you'll need to change the color parameters accordingly.) Because Q&A doesn't save programmed color changes, if you want the field colored during Search/Update, you'll have to make the program execute on-record-entry. To do this, press F8 while in the Program Spec and type a "1" on the On Entry Field ID line.

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? Have a nagging question? Send it to **@Help,** *The Quick Answer*, **Marble Publications, Inc., PO Box 9034, Gaithersburg, MD 20898-9034** or fax to 301-424-1658. Please include your name, address, and phone number, along with your Q&A version number (and whether DOS or Windows) and a detailed description of the problem. We will publish those questions we feel are of general reader interest; individual responses are not possible.

QUICKTIP

Spell Check Database Records

`DOS`

I have to be one of the world's worst spellers, and I often need to run a spell check while adding or updating database records. When I tried to run the spell checker in File by pressing Shift-F1 or Ctrl-F1 with the cursor on the problem word, it didn't work. I found I had to press F6 to expand the field, then perform the spell check. With the field expanded, you can press Shift-F1 to spell check the contents of the field, or Ctrl-F1 to spell check the current word. You can also press Alt-F1 to activate the thesaurus, or press F8 to display the Options menu to take advantage of Q&A's various word processing-related features.

You can also run a spell check while you're designing a database form. In this case, the Shift-F1 and Ctrl-F1 spell check commands work as you'd expect. It's best to perform your spell check before saving your initial database design; otherwise, the spell checker will stop on most of the two-character internal codes Q&A adds to the fields, and you'll have to repeatedly press "I" to have the spell checker ignore them.

John Kell, Computer Resources, Inc. in Schofield, Wisconsin. 715-359-8623.

Print Merge Documents with Information from Multiple Databases

What do you do when Write threatens to sink that 17th programming expression in your merge document? You do what any sensible Q&A battle commander would do: damn the torpedoes and rig up another database!

By William Halpern

DOS

WHEN you need your merge document to include information from multiple databases, you can run into a barrier. Write lets you link a merge document to one primary database, then using @XLookups, merge data from one or more external databases. But Write won't allow more than 16 programming expressions per document, and no expression can exceed 80 characters. Unless you know how to get around these obstacles, you're stuck without the sophisticated merge documents you might need. Fortunately, there's light at the end of this tunnel, and I'll point you in the right direction.

Dancing in the dark

Suppose you want to include in your merge document information from three databases: CUSTOMER, SALES, and REPS. Your Customer database contains company names, addresses, sales region(s), and unique customer ID numbers. Your SALES database contains details on each sales transaction, along with unique customer numbers. And your REPS database contains a record for each sales representative servicing your customers by region.

If you make CUSTOMER your primary merge database, you're immediately faced with a dilemma: the SALES database contains far too many fields to merge—transaction number, date, multiple items, quantities, and so forth—and you're limited to 16 programming expressions.

If, on the other hand, you make SALES your primary merge database, you might then just be able to squeeze the information from the other databases into fewer than 17 programming expressions.

With the SALES fields inserted, you can use programming expressions, like these, to retrieve the company name and address information from the CUSTOMER database:

```
*PROGRAM {@XLookup("Customer",Customer Number,
"Customer Number","First Name")}*

*PROGRAM {@XLookup("Customer",Customer Number,
"Customer Number","Last Name")}*

*PROGRAM {@XLookup("Customer",Customer Number,
"Customer Number","Company Name")}*

*PROGRAM {@XLookup("Customer",Customer Number,
"Customer Number","Address1")}*

*PROGRAM {@XLookup("Customer",Customer Number,
"Customer Number","Address2")}*

*PROGRAM {@XLookup("Customer",Customer Number,
"Customer Number","City")}*

*PROGRAM {@XLookup("Customer",Customer Number,
"Customer Number","State")}*

*PROGRAM {@XLookup("Customer",Customer Number,
"Customer Number","Zip")}*
```

The problem with this approach is the length and sheer quantity of the programming expressions. Because each expression returns just one piece of customer data, you'll have a hard time placing the expressions on the layout so the elements will be properly aligned in the printed document. What's more, because Q&A interprets a ZIP code in a merge programming expression as a number, a five digit ZIP code such as 18940 will print as 18,940. Therefore, the Zip field's expression has to be split into two expressions—@Left(Zip, 3) and @Right(Zip, 2), for example. This means you might need a total of nine expressions just to include customer information in the document!

If you want to merge print cc lines to send copies of the documents to the appropriate sales reps, you'll have to add even more programming expressions along these lines:

```
cc:
*PROGRAM {@XLookup("Reps",Region1,"Region","Rep Name")}*
*PROGRAM {@XLookup("Reps",Region2,"Region","Rep Name")}*
*PROGRAM {@XLookup("Reps",Region3,"Region","Rep Name")}*
and so forth.
```

Look at the work you've gone through. You're already approaching the 16 expression limit, and some of your expressions are dangerously close to the 80-character maximum.

There are several things you can do to stay below the 80-character limit. One of these is to use abbreviations. For example, you can use @XLu instead of @XLookup, and you can replace PROGRAM with PG. You can also use the Field Names Spec to shorten the names of the database fields, but that's risky if you have other merge documents that contain the original longer field names.

A solve-all solution

The *real* problem, however, is if you need more than 16 programming expressions in the document. In such a case, your best option might be to forego programming the document altogether, and instead create and use an interim or temporary database. This way, you can use the one database to gather all the information required for the document, then merge the fields from it alone.

Figure 1 shows an example of an interim database, PRN-DB.DTF, that includes fields for the information you need to merge print from the CUSTOMER, SALES, and REPS databases. Because you won't use PRN-DB to add and search data—it's strictly a temporary database—the layout isn't important. The main thing is that you include in it all the fields you'll want to merge print.

You'll use a Mass Update program to XLookup all the information for each PRN-DB record to be merged during printing, so you'll get—in this case—a printed document for each transaction. You'll use a macro to clear PRN-DB of any existing records, run the Mass Update and, optionally, print the documents. Here are the essential steps your macro will need to perform:

1. Remove any existing records from the PRN-DB database.

2. Using Copy Selected Records, copy to PRN-DB's Trans# field the transaction number from all the SALES records you want to include in the merge printing. (You might want to base your record selection criteria on a date or date range, a sales region, or a particular customer.)
   When these first two steps are complete, you'll have a new set of records in PRN-DB with only the Trans# field filled in.

3. Run a saved PRN-DB Mass Update Spec to retrieve the necessary information from the three pertinent databases:

   - First, perform your XLookups to the SALES database to retrieve the date, the customer number, and the items. Use the Trans# field as the matching key field.

   - Second, using the retrieved customer number as the matching key field, perform your XLookups to the CUSTOMER database to retrieve the name, address, city, state, ZIP code, and sales region.

   - Finally, using the retrieved regions, perform an XLookup to the REPS database to retrieve the sales rep names for the cc fields.

Design the PRN-DB Mass Update program so the information needed for any subsequent XLookups is retrieved first. For example, you have to retrieve the customer number from SALES before you can retrieve the customer's particulars from CUSTOMER. Listing 1 shows a sample Mass Update program that first retrieves the transaction information, followed by the customer information, and finally the reps information.

Listing 1. Sample Mass Update program that retrieves data from the pertinent databases in the required order.

```
#10:
Xlu("Sales", Transaction number, "Trans#",
"Sale Date", Date, "Customer Number", Cust#,
"Item1", Itm1, "Itm2", Itm2, "Item3", Itm3,
"Item4", Itm4, "Item5", Itm5, "Item6", Itm6);
```
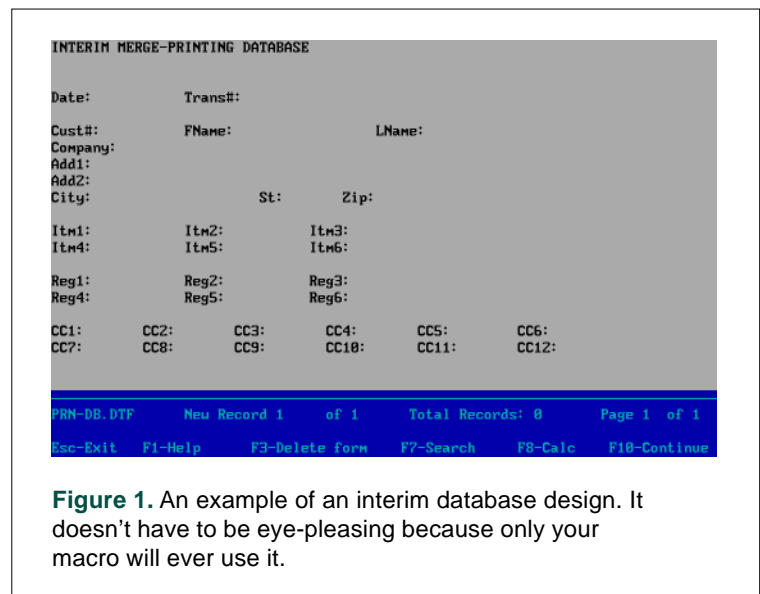

Figure 1. An example of an interim database design. It doesn't have to be eye-pleasing because only your macro will ever use it.

```
Xlu("Customer", Cust#, "Customer Number",
"First Name", FName, "Last Name", LName,
"Company Name", Company, "Address1", Add1,
"Address2", Add2, "City", City, "State", St,
"Zip", Zip, "Region1", Reg1, "Region2", Reg2,
"Region3", Reg3, "Region4", Reg4, "Region5",
Reg5, "Region6", Reg6);

CC1=@Xlu("Reps", Reg1, "Region", "First Name")+ " " +
@Xlu("Reps", Reg1, "Region", "Last Name");

CC2=@Xlu("Reps", Reg2, "Region", "First Name")+ " " +
@Xlu("Reps", Reg2, "Region", "Last Name");

CC3=@Xlu("Reps", Reg3, "Region", "First Name")+ " " +
@Xlu("Reps", Reg3, "Region", "Last Name")
```

You can now design your merge document to include just the fields in the PRN-DB database—you won't need any programming expressions in the document. From the blank document screen, press Alt-F7, enter PRN-DB, and Q&A will display the list of PRN-DB's fields. You'll have an easier time selecting and inserting the fields—and you shouldn't have a problem aligning them so the data they merge prints properly.

Using this technique, you can overcome all the problems associated with complex, multi-database merge printing. PRN-DB's field names can be short to make aligning them in the merge document easier, and because you no longer need to program the document, you won't have to be concerned about the 16-expression and 80-character limitations.

Bill Halpern is executive vice president of Professional Computer Technology Associates in Newtown, Pennsylvania, and author of Pinnacle Publishing's The Quick Answer Focus special report on Macros and Custom Menus. Bill has been designing and installing Q&A business applications for the past eight years, and teaches Q&A at two community colleges. 215-968-4185, CompuServe 71023,356.