The Quick Answer™
The Independent Guide to Q&A Expertise

November 1997
Volume 8, Number 11

MARBLE PUBLICATIONS

Subcategory Picklists —A Different Approach

For picklists where you need some of the selections to offer sub-selections, here's a simple, effective technique.

Alec Mulvey

IN the August 1997 *Quick Answer*, Izzy Gindi showed a sophisticated technique for selecting an accounting code by its description, then a subcode by its description, to “drill down” to the right category for an accounts payable transaction. This is fine for an accounting or similar application where rigorous control of codes is required. But for simple category-subcategory picklists that don't involve numeric codes, just descriptions, you have other options. The one I'll show you doesn't take much time to implement, and you can quickly add it to as many databases as you like.

Why categories and subcategories?

When manually entering transactions in a traditional ledger, it's customary to place the date and total amount paid in the left-hand columns, and what the payment is being applied to (the category) in the columns to the right. In Britain this is called an “analysed cash-book.” Many people attempt to use this same structure in a database design, but it's a mistake. They wind up with a field for every conceivable category, and still run into problems, such as what to do about a payment category with subcategories like *Automobile - Insurance*.

In situations like this, the answer is to have a field (let's call it **Category**) that categorizes the payment (or whatever it is you're categorizing) and always contains a value. If at least one category has subcategories, you have another field named **Subcategory**. In most cases, all your needs can be met by just these two fields.

Although the classic scenario is the accounts payable application described above and in Izzy's article, I'll use another example—one that I designed for a company that sells directly to retail customers, and also through a network of dealers who sell on commission. This client stores all his contacts—customers, suppliers, even friends—in one database. Clearly, there was a need to distinguish between the different types of contacts, and a Category field (with a picklist) containing entries such as *Domestic*, *Commercial*, *Staff*, and *Personal* served the purpose. However, some categories needed further clarification. For example, the *Trade* category broke down into *Carpenter*, *Plumber*, *Painter*, and so on. Here's where a Subcategory picklist field came into play.

How to set it up

To start, you'll need an auxiliary database to contain your categories and subcategories. Let's call it Category.dtf. It contains just two fields: **Category** (a text field) and **Subcategories** (a keyword field). Subcategories should be a larger, multiline field so that you can view all its entries without having to expand it. (See **Figure 1** on the following page.)

When you've designed the database, go to the Field Names Spec (Design / Program / Set Field Names) and name the fields Category and Subcategory. Also, make the Category field Speedy Unique (SU) at the Speed Up Spec.

No programming is required in this database. But an optional refinement is to have Q&A automatically add two periods to a Category value if the Subcategory field isn't empty. If you want to do this, place the following program in the Subcategory field:

```
> If Subcategory <>“” and
@Right(Category,2) <> “..” then
Category = Category + “..”
```

When you add your records to Category.dtf, enter the main categories in the Category field—one per record. If there are subcategories, enter the main category followed by two periods (“..”), then enter the subcategories in the second field of

Continues next page

the same record. Because the second field is a keyword field, be sure to type a semicolon (";") between the values. (See **Figure 1**.) The order you type the subcategories isn't important because Q&A will see to it that they appear on the picklist in alphabetical order. However, if you want to make one particular subcategory the default picklist selection, and it would normally appear further down the list, put a space in front of its entry and Q&A will move it to the top of the picklist. As Q&A removes leading spaces from fields, don't make such a subcategory the first one in the keyword field.

Programming

In the main database, add two text fields, **Category** and **Subcategory,** then program them as follows:

```
Category:
< If Category = "" Then  XUS("CATEGORY", "Category", Category);
  If @Right(Category,2) = ".." Then Goto Subcategory Else CNext

Subcategory:
< If Subcategory = "" And @Right(Category,2) = ".."  Then
{Subcategory = @US(@Xlu("CATEGORY", Category, "Category", "Subcategory"));
Category = @Left(Category, @Len(Category) -2); CNext }
```

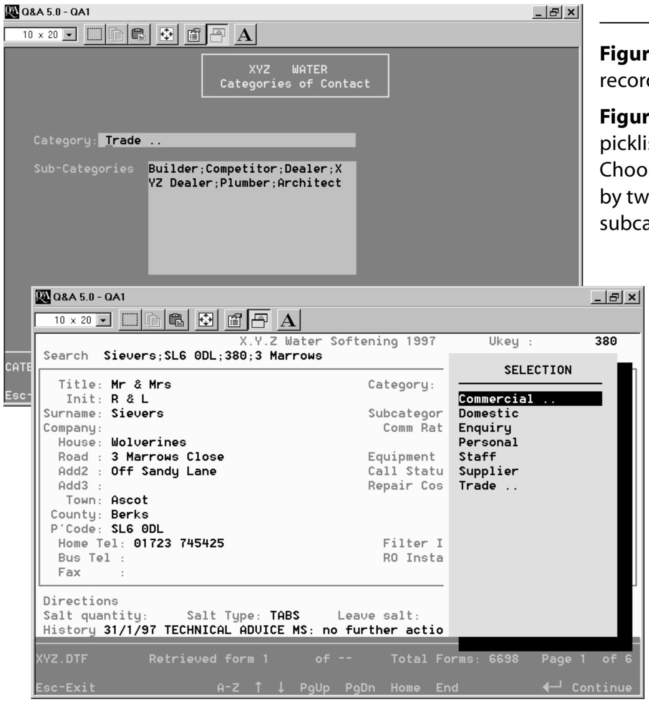
Finally, add a Navigation Spec program (to skip a blank Subcategory field during Update mode) to the main database's Subcategory field:

```
< If @Update and Subcategory = "" then CNext
```

Using the system

With everything set up, the picklist will display when you move to the empty Category field in your main database. (See **Figure 2.**) You can tell which categories have subcategories by the two periods following the selection. If you select a category without a subcategory, Q&A places it in the Category field, then moves on. If you select a category *with* subcategories, Q&A fills the Category field, then moves to the Subcategory field and displays its picklist.

The programming skips both fields if the Category field already contains a value. To change an entry, simply move back to the field, clear it, then reenter it.



```
            XYZ   WATER
     Categories of Contact

Category: Trade ..

Sub-Categories  Builder;Competitor;Dealer;X
                YZ Dealer;Plumber;Architect
```

```
                X.Y.Z Water Softening 1997      Ukey :      380
Search  Sievers;SL6 0DL;380;3 Marrows
                                                    SELECTION
  Title: Mr & Mrs                   Category:      ____________
   Init: R & L                                    Commercial ..
Surname: Sievers                    Subcategor    Domestic
Company:                              Comm Rat    Enquiry
  House: Wolverines                               Personal
  Road : 3 Marrows Close            Equipment     Staff
  Add2 : Off Sandy Lane             Call Statu    Supplier
  Add3 :                            Repair Cos    Trade ..
   Town: Ascot
 County: Berks
 P'Code: SL6 0DL
  Home Tel: 01723 745425              Filter I
  Bus Tel :                           RO Insta
  Fax     :

Directions
Salt quantity:     Salt Type: TABS     Leave salt:
History 31/1/97 TECHNICAL ADVICE MS: no further actio
XYZ.DTF      Retrieved form 1     of --     Total Forms: 6698   Page 1  of 6
Esc-Exit            A-Z  ↑  ↓  PgUp  PgDn  Home  End          ↵ Continue
```

Figure 1 (Top). Category.dtf record with subcategories.

Figure 2 (Bottom).The picklist for the Category field. Choose a selection followed by two periods, and a subcategories list appears.

How the picklists are generated

The initial picklist contains the values from the Category field in Category.dtf. If you select an entry that ends with two periods (see the "Snazzier Picklists" sidebar on page 12) then the second picklist (subcategories) is generated by an XLookup to Category.dtf on a match between the Category selection you just made and the corresponding Category field in the external database. (The Userselect command transforms the retrieved Subcategory keyword field into a picklist.) The two periods are then stripped from the Category field.

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The Quick Answer™
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Editor Tom Marcellus
Publisher Michael Bell

The Quick Answer (ISSN 1052-3820) is published monthly (12 times per year) by Marble Publications, Inc., 9717 Delamere Ct., Rockville, MD 20850.

Cost of domestic subscriptions: 12 issues, $79; 24 issues, $142. Outside the U.S.: 12 issues, $99; 24 issues, $172. Single copy price: $10; outside the U.S., $12.50. All funds must be in U.S. currency. Back issues are available upon request, for the same price as a single copy.

Periodicals postage paid at Rockville, MD. POSTMASTER: **Send address changes to The Quick Answer, PO Box 9034, Gaithersburg, MD 20898-9034.**

Address editorial correspondence, @HELP questions, or requests for special permission to: Marble Publications, Inc., The Quick Answer, PO Box 9034, Gaithersburg, MD 20898-9034. Phone 800-780-5474 or 301-424-1658. Fax 301-424-1658. CompuServe 73370,1575.

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Q&A 5 and Win 95— A Cool Combo, Part 2

David E. Dvorin

Which Windows 95 features can enhance your Q&A experience, and how can you customize a Windows 95 environment for Q&A?

In this two-part article, I discuss ways to make Q&A for DOS perform its best in Windows 95. Last month, in Part 1, I covered the special features Windows 95 offers DOS programs like Q&A, and showed how to add a Q&A start-up icon (called a *shortcut*) to your Windows 95 desktop. This month in Part 2, I'll take you behind the scenes, and show you how to tweak various settings to optimize the way Q&A runs in Windows 95 on your PC .

Fine-tuning your shortcut with properties

You can fine-tune the way Q&A runs in Windows 95 by editing what are called the shortcut's *properties*. (At the end of last month's instalment, I showed how to add a Q&A shorcut to your Windows 95 desktop.) There are several ways to access these properties—I'll focus on just one of them.

Start Q&A, and press Alt-Enter to switch to window mode. Click on the toolbar's Property icon (it's the third icon from the right), and the Properties dialog box should appear. Let's examine each of the properties tabs (*Program*, *Font*, *Memory*, *Screen*, and *Misc*) to see how they relate to Q&A.

The Program tab

The Program tab contains the name and location of Q&A along with how it should be started. (See **Figure 1**.)

Title – The title field shows the text that appears in the title bar at the top of the window. You can enter something like *Q&A 5.0 for DOS* if you like. If you leave this field blank, Windows 95 will use the filename in the Comd Line field.

***Comd Line*—**The Command Line field contains the command line to start Q&A. Typically, it includes the path to the QA.COM file. Here's where you can include whatever Q&A startup parameters you need. For example, the command line C:\QADOS50\QA.COM -AL MYMACROS.ASC will start Q&A, and load the MYMACROS.ASC file stored in the QADOS50 directory.

Working Directory – As long as the full path is specified in the Command Line field, you can leave this field blank.

***Batch File*—**If you want to run a DOS batch file or load a TSR program before Q&A starts, you can enter the filename in the this field. This powerful option lets you customize the Q&A environment for your specific application. (See the Sidebar, "Multiple Q&A Shortcuts" for more on this.)

Shortcut Key – A shortcut key is a Ctrl- and/or Alt-key combination you specify that starts or switches to Q&A. For example, if you specify Ctrl-Alt-Q as the shortcut key, then you can start or switch to Q&A by pressing Ctrl-Alt-Q.

To enter a shortcut key, click on the field, then press Ctrl or Alt along with the other key. If you want both Ctrl and Alt in the key combination, press only the third key ("Q," for example).

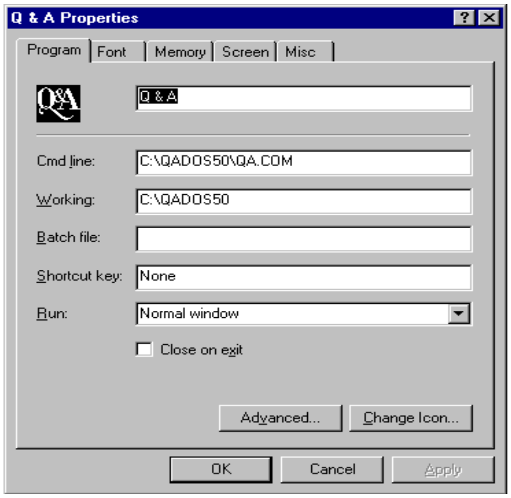
You can't use the Esc, Enter, Tab, Spacebar, PrtSc, Pause, or Backspace keys. All other keys are valid.

Shortcut keys work even if you're running a Windows or DOS program in full-screen mode. Windows 95 shortcut keys take precedence over an individual program's shortcut keys. This means that if you define a shortcut key combination that's used by a program, that program will lose access to that key combination.

As a rule, it isn't a good idea to redefine keys such as F1. Many Windows programs use Ctrl-Fl or Ctrl-Shift-Fl as hotkeys, and you don't want to cause conflicts. In addition, stay away from Q&A's built-in shortcut key combinations.

The downside of specifying a Shortcut Key in the Program properties tab is that it also requires a Q&A shortcut on your Windows 95 Start menu. (To add a Q&A shortcut to your Start menu, drag the shortcut from your desktop or the Explorer folder to the Start button.)

Run – The Run field lets you tell Windows 95 how to start Q&A. (Click on the down arrow at the end of the field.) The *Normal* and *Maximized* settings run Q&A in a full-screen DOS window (as long as *Full-screen* hasn't been changed to *Window* in the Screen tab). If you choose



Q & A Properties

Q & A

Cmd line: C:\QADOS50\QA.COM

Working: C:\QADOS50

Batch file:

Shortcut key: None

Run: Normal window

□ Close on exit

Figure 1. Program Properties tab for a Q&A shortcut.

Minimized, Windows 95 will start Q&A but won't display it. Instead, it will place a Q&A button on the taskbar at the bottom of the screen. This might seem useless, but it's great for running autostart Q&A procedures that don't require user interaction, or just to have a quick way to switch to Q&A from another program.

Close on Exit – For Q&A, this checkbox should be checked. It ensures the Q&A window closes when you exit Q&A via Q&A's Main menu. I noticed, though, that even when unchecked, the Q&A window always closes when I exit Q&A.

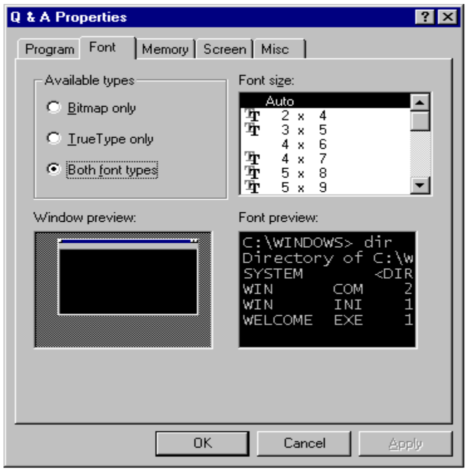
Change Icon – The Change Icon button lets you change the icon associated with Q&A. Q&A for DOS comes with an icon file named QA.ICO. (It should be in your main Q&A directory.) If you don't have a QA.ICO file, you can reinstall Q&A to another directory as outlined last month, then copy QA.ICO to your old Q&A directory before deleting the newly installed files and directory. (You don't want to reinstall Q&A to the same directory because you can lose custom configuration settings.)

If your shortcut icon is the generic MS-DOS icon, you can change it to the icon that comes with Q&A. Simply click the *Change icon* button, navigate to your Q&A directory, select QA.ICO, and click OK.

Advanced – Clicking the Advanced button displays an Advanced Program Settings screen. In a nutshell, the settings here allow you to customize an MS-DOS program with custom CONFIG.SYS and AUTOEXEC.BAT files. Q&A runs fine in Windows 95 without any of these special settings. Accordingly, leave the first checkbox *(Prevent MS-DOS-based programs from detecting Windows*) clear. Leave the next checkbox (*Suggest MS-DOS mode as necessary*) checked. This lets Windows 95 detect whether the program requires or runs best in MS-DOS mode. Finally, leave the *MS-DOS mode* check box empty.

The Font properties tab

The Font properties tab lets you specify the font to use when running Q&A in a window. (See **Figure 2**.) The tab is divided into four areas. A list of available fonts is displayed in the upper right quadrant, and can be filtered by choosing only Bitmap only fonts, only TrueType fonts, or both, in the upper left quadrant. The lower right quadrant displays a preview of the font. Finally, the lower left quadrant shows the size of the resulting window relative to the entire screen.



Available types

○ Bitmap only
○ TrueType only
● Both font types

Font size:

Auto
2 x 4
3 x 5
4 x 6
4 x 7
5 x 8
5 x 9

Font preview:

```
C:\WINDOWS> dir
Directory of C:\W
SYSTEM        <DIR
WIN      COM     2
WIN      INI     1
WELCOME  EXE     1
```

Figure 2. The Font properties tab.

Multiple Q&A Shortcuts?

There's nothing in Windows 95 that prevents you from having several Q&A shortcuts. By setting different properties for each one, you can start Q&A with different configurations and options.

For example, you could have a custom shortcut that autoloads a macro to open a specific database or perform some other task, and another that runs a batch file to swap the Q&A configuration file (QA.CFG).

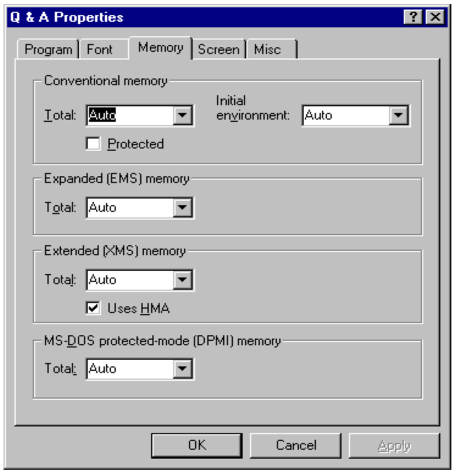
If you create multiple Q&A shortcuts, assign a meaningful configuration name in each one's Title field in the Program tab. This way, you'll know which configuration does what, and you'll be able to tell which one is running by pressing Alt-Enter to switch to window mode.

You don't need multiple Q&A shortcuts to run a second copy of Q&A 5.0 via the External Programs menu or @Shell command. These internal Q&A commands create their own new instances of Q&A.

The Font tab has nothing to do with how Q&A operates. Choose whatever font/window looks best to you. If you select Auto from the *Font size* list, Windows 95 will automatically adjust the font size when you resize the window in which Q&A is running.

The Memory properties tab

The Memory Property tab lets you adjust how Windows 95 allocates memory to Q&A. (See **Figure 3**.) Windows 95 uses your settings here to create what's called a *virtual DOS machine* for Q&A. This way, from Q&A's perspective, only Q&A and DOS are running. Windows 95 will isolate Q&A operations from all other computer events, which allows you to multitask—that is, work with more than one program at a time. For example, Q&A could be running a lengthy mass update or mail-merge while you're working on a brochure design in another application.



Conventional memory

Total: Auto
Initial environment: Auto
□ Protected

Expanded (EMS) memory

Total: Auto

Extended (XMS) memory

Total: Auto
☑ Uses HMA

MS-DOS protected-mode (DPMI) memory

Total: Auto

Figure 3. The Memory properties tab.

If you're uncomfortable tweaking memory settings on your PC, there's no need to worry. All the settings on the Memory properties tab can be set to Auto. In fact, if Q&A is working fine with the default or current settings, for Heaven's sake don't change them!

On the other hand, let me give you a few tips about memory and Q&A, some of which I picked up from Ofer Shimrat at last year's Q&A User Group's Bash.

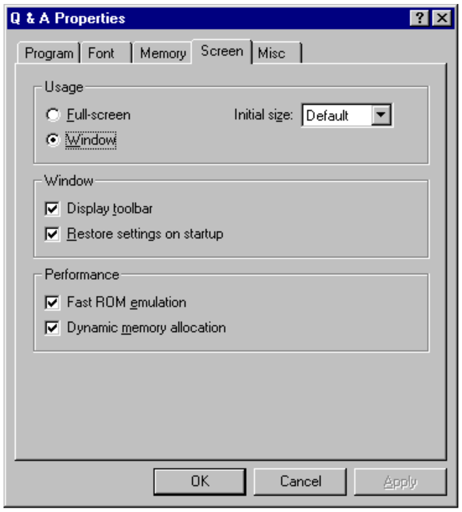
Conventional memory – No tricks needed here. Setting this parameter to *Auto* is best. The only reason to enter a value here that limits the amount of conventional memory available to Q&A is to make it load slightly faster. You might notice the difference on older, slower computers, but not on newer, faster ones.

Protected – Checking the *Protected* box is a good idea. It write-protects the MS-DOS system memory area and so helps prevent Windows 95 from crashing. Any attempt by Q&A to write to this area of memory is blocked. This protection might cost you a minor performance hit, but I don't notice it on my Pentium PC.

Initial Environment – If your CONFIG.SYS file contains a *Command /E* setting for resizing the DOS environment, you should move it to this *Initial Environment* parameter. The difference between setting a value here or in CONFIG.SYS is availability. The environment setting here applies just to Q&A—any extra memory is required only when Q&A is running. The setting in CONFIG.SYS is global. The memory is set aside whether any program needs it or not. If you have no *Command /E* line in your CONFIG.SYS file, or no CONFIG.SYS file at all, then leave this parameter set to *Auto*.

Expanded (EMS) Memory – Q&A can use up to 256K of expanded memory, and Windows 95 is more than happy to supply whatever amount you specify in this field. Q&A uses expanded memory for sorts, merge operations, and multipass reports. Without it, you might receive out-of-memory messages. Q&A Write uses expanded memory to keep large documents displayed. Without it, your maximum Write document size is more limited.

The beauty of Windows 95 is that you don't need to mess around with expanded memory managers such as EMM486.EXE or the CONFIG.SYS file in order to create expanded memory. Windows 95 does it for you. Setting this parameter to *Auto* tells Windows 95 to give Q&A as much expanded memory as it requests.


Q & A Properties

Program | Font | Memory | Screen | Misc

Usage
○ Full-screen   Initial size: Default
● Window

Window
☑ Display toolbar
☑ Restore settings on startup

Performance
☑ Fast ROM emulation
☑ Dynamic memory allocation

Figure 6. The Screen properties tab.

Extended (XMS) memory – Like EMS, Windows 95 creates extended memory without having to fuss with the CONFIG.SYS file or memory managers. As far as I know, Q&A 5.0 will use 3K of extended memory, if available, for its internal clipboard. Curiously, when I left XMS set to *Auto*, Q&A 5.0's System Information screen (press Ctrl-F3 from the Main menu) showed no Extended memory in use. When I changed XMS to 3072, Q&A then showed 3K Extended memory in use. The clipboard worked in either case, so it might be that the additional 3K comes into play only when Conventional memory is low or when a lengthy block of text is placed in the clipboard.

HMA – Generally, it's best to check the *HMA* (high memory area) box. Q&A can benefit from HMA memory, if available. However, it might not be available to Q&A because another DOS program or DOS itself might lay claim to it even before Windows 95 starts.

MS-DOS protected-mode memory – Leave this parameter set to *Auto*. Some DOS programs use this specification for turning extended memory into memory it can use. Setting this parameter to *Auto* lets Windows 95 figure out whether a DOS program can uses this type of memory and how much to allocate to it.

The Screen properties tab

The Screen tab controls the appearance of the Q&A window. (See **Figure 4**.)

Usage – If you want Q&A to look exactly as it does when running in DOS, click on the *Full-screen* radio button. Otherwise, Windows 95 will start Q&A in a window. (The window's size is determined by the Run field in the Program property tab and the window font specified.)

Pressing Alt-Enter to switch between window and full-screen modes changes the setting in this tab's Usage area.

TIP— To preserve the settings in a shortcut's Properties sheets, you can set the shortcut file's attribute to *read-only*. To do this, right-click on the shortcut icon, click Properties, then click Read-only.

The *Initial size* setting has no effect on Q&A, so just leave it set to *Default*. This setting allows some DOS programs to display more than the customary 23 lines per screen. I recall WordPerfect for DOS having 43 and 50 lines-per-screen options, but Q&A has no such options.

Window – The *Display toolbar* checkbox toggles the toolbar on and off in the Q&A window. When using Q&A, you can also toggle the toolbar on and off by clicking on *Toolbar* from the MS-DOS icon drop-down menu located in the upper left corner of the window.

Check the *Restore settings on start-up* check box if you want the window size, position, and font changes you've made to stay the same from session to session.

Performance – Some documentation I consulted states that *Fast ROM emulation* results in faster screen writes. With Q&A, I noticed no difference whether this feature was on or off, so I just left it checked. The documentation also states that Fast ROM emulation should be turned off only if Q&A uses non-standard display-related functions, or if problems occur when printing text to screen. Neither is the case with Q&A.

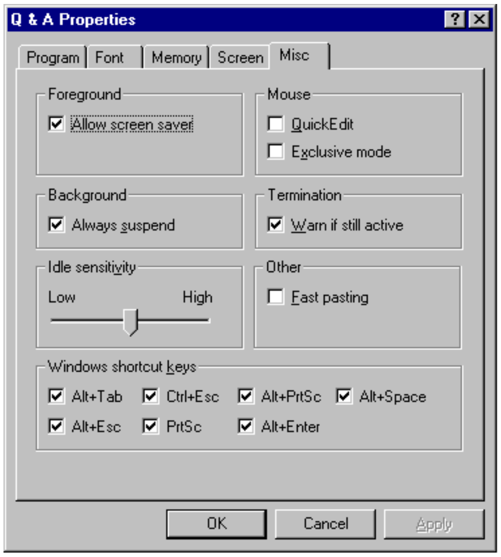
I couldn't find anything to convince me whether or not to check the *Dynamic memory allocation* checkbox. When unchecked, Windows 95 allocates memory for such display-related operations as Q&A's Print Preview. The price, though, is allocating that memory (and thus reducing your total Windows 95 memory pool) whether or not you run any programs that use it. By checking this box, Windows 95 dynamically (on-the-fly) allocates memory only when a program calls for it. I keep the box checked. I use many other applications besides Q&A, and I've never experienced a problem that I could trace to this setting.

The Misc properties tab

The *Misc* (miscellaneous) tab includes a number of settings that aren't appropriate to the other properties tabs. (See **Figure 5**.)

Foreground – The *Allow screen saver* checkbox lets you tell Windows 95 to allow or disallow a screen saver to do its thing when Q&A is running, even in full-screen mode. I'm not a fan of screen savers. I've never "burned-in" a monitor by not using one, and they're known to interfere with certain kinds of applications (for example, communications programs and programs that are idle until an event such as an incoming fax occurs). Therefore, I leave this checkbox blank.

Background – In the Windows world, *background* simply means a program is running, but it doesn't have the "focus" – that is, another program's title bar is highlighted. If you want the ability to run a Q&A procedure (a lengthy sort or macro, for example) while you work on something else, then be sure to clear the *Always suspend* checkbox. Otherwise, Windows 95 will suspend Q&A when you switch the focus to another application.



Foreground
☑ Allow screen saver

Mouse
☐ QuickEdit
☐ Exclusive mode

Background
☑ Always suspend

Termination
☑ Warn if still active

Idle sensitivity
Low High

Other
☐ Fast pasting

Windows shortcut keys
☑ Alt+Tab ☑ Ctrl+Esc ☑ Alt+PrtSc ☑ Alt+Space
☑ Alt+Esc ☑ PrtSc ☑ Alt+Enter

Figure 5. The Misc properties tab.

Idle sensitivity – This setting is how Windows 95 determines if Q&A is sitting around and doing nothing. When it is, Windows 95 turns its attention to other tasks. How you should set this slider bar depends on how you use Q&A. If you often have Q&A performing high-priority sorting or other database operations, you can move the slider toward High. The cost, however, is that Windows 95 will then take longer to provide CPU resources to other running programs. If most of the time Q&A is involved with data entry or Write operations, then moving the slider toward Low is a better way to go. There are no rules on optimizing Idle sensitivity. If you multitask, you'll have to experiment to determine the setting that gives you the best results. Fortunately, a "wrong" setting won't break anything.

Some Win 95 Shortcut Keys

Windows 95 includes a host of shortcut keys for people like me who can work faster from the keyboard. In some cases, these keys offer the only way to access a Windows 95 function. The shortcut keys are located in the *Misc* tab of the shortcut properties. To turn one off (if you want to assign the same key combination to a program), clear that key's checkbox. Don't try to record a Windows 95 shortcut key in a Q&A macro. It won't work. Here are the standard Windows 95 shortcut keys and what they do:

Alt+Enter toggles between full-screen and window mode.

Alt+Tab displays the task manager, letting you quickly switch between running programs. When you hold down the Alt key and tap the Tab key repeatedly, the title of each running program will be displayed in succession. When the program you want to switch to appears, release the Alt key.

Alt+Esc switches to the next active program. If Q&A is in full-screen mode and the only program running, Alt-Esc switches to the Windows 95 desktop.

Ctrl+Esc displays the Windows 95 Start menu even from a DOS program running in full-screen mode.

PrtSc copies the entire screen to the Windows Clipboard. If you're in full-screen DOS mode, PrtSc copies the screen's text to the Clipboard. When PrtSc is unchecked in the Misc properties tab, pressing PrtSc in full-screen mode will send the current DOS screen to the printer the same way it does in DOS. However, you can leave PrtSc checked, and still print a DOS screen to the printer by pressing *Shift-PrtSc*.

Alt+PrtSc copies the active window to the Clipboard. If it's a DOS program running in a window, Alt-PrtSc copies it to the Clipboard as a graphic screen. If the DOS program is in full-screen mode, Alt-PrtSc copies it to the Clipboard as text.

Alt+Space pulls down the system menu (activates the icon in the upper left corner of the active window.)

Mouse – If you use a mouse with Q&A, and you frequently switch to window mode to copy and paste text or data between Q&A and other programs, the *QuickEdit* feature will save you several steps. With QuickEdit turned on, you simply put Q&A in a Window (press Alt-Enter), then click and drag the mouse to highlight the text or data you want to copy.

The downside is that QuickEdit preempts normal mouse operation (such as clicking on menu or list selections) when Q&A is running in a window. However, it has no effect when running Q&A in full-screen mode. The bottom line is that if you normally run Q&A in full-screen mode, and switch to window mode only to copy or cut, QuickEdit will simply the task.

As for the *Exclusive mode* checkbox, it's best to leave it unchecked. It's a remedy for DOS programs that don't work well with pointing devices. You don't need it for Q&A.

Termination – Leave the *Warn if still active* box checked. This way, when you're running Q&A in a window, Windows 95 will warn you if you try to quit Q&A by clicking on the "X" button in the top right corner of the window. The only safe way to quit Q&A is through its Main menu. Any other way is an invitation to trouble, including possible data corruption.

Other – Clear the *Fast pasting* checkbox. If you try to paste Windows Clipboard data into a Q&A screen with Fast pasting turned on, you'll get "beeps and garbage." Some DOS programs, such as WordPerfect, can handle fast pasting—Q&A for DOS can't.

Windows shortcut keys – Leave all the Windows shortcut keys checked, as they're reserved for specific Windows 95 tasks. (See the sidebar, "Important Windows 95 Shortcut Keys.")

Conclusion

You have nothing to fear from running Q&A for DOS in Windows 95. It's friendlier toward DOS programs than Windows 3.1, more crash-proof, and offers more advantages than running Q&A in DOS.

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Long Filenames and Q&A

One of the many interesting and useful features in Windows 95 is support for long filenames. Gone is the confining "8-dot-3" file-naming convention of DOS and Windows 3.1. However, Q&A is a DOS program and doesn't recognize long filenames. Stick to the old "8-dot-3" when naming your database, document, and other Q&A files. If when viewing filenames in Q&A you see one that includes a tilde ("~") character, it means it's a long filename. If you're curious, you can use Explorer to see the full filename.

How to Boot to DOS on a Windows 95 PC

Whether or not "DOS is dead" with Windows 95 is debatable. But it doesn't take much to figure out that there's a "DOS 7.0" hidden underneath it. To boot to this version of DOS instead of booting to Windows 95's graphical interface, be sure the following line appears in your C:\MSDOS.SYS file:

```
BOOTGUI=0
```

You can optionally boot to DOS by pressing F4 while your PC is booting. Or, with Windows 95 running, you can perform a quick reboot to DOS by clicking on the Start button, clicking on Shut down, then clicking on *Restart the computer in MS-DOS mode*. You can always enter *WIN* at any DOS prompt to start Windows 95.

Add for the Masters Seminar disks

@Help

EDITED BY T.J. SHUFLIN

Flag Non-Zero Balances in a Report

DOS WIN

Quick Answer publisher Mike Bell posed this challenge concerning a report he needed. A Q&A database in a real estate settlement application contains **File#** and **Amount** fields. Many records have the same file number, but different positive and negative dollar amounts for deposits assigned to, or checks dispersed from, the file number. In most instances, a given file number's balance would be 0 (zero), indicating that the checks issued under that file number equaled deposits to it. This wasn't always the case, though, so a report that flagged file numbers with non-zero balances was needed.

Gordon Meigs and Bobbi Baker rose to the challenge with a suitable report. (Mike's partner Tom Marcellus "went fishin'.") Each approached the problem in a similar manner, with only slight variations in a couple of derived columns. Here are the report specs they used:

Column/Sort Spec:

```
 File#: 10,AS, I
Amount: 30,I
```

Gordon's derived columns employed @Text to perform two tests on the data before including a non-zero balance file number in the report:

Heading	Formula	Col. Spec
Subtotal	@Round(@Total (#30,#10),2)	50,I,F(M)
File#	@Text(#50<>0,@Text(#10<>#200,#10))	60
Amount	@Text(#50<>0,@Text(#10<>#200,#50))	70,T,F(M)
Repeat File#	#10	200,I

Bobbi's derived columns utilized @Text to find out if one thing *and* something else were true at the same time:

Heading	Formula	Col. Spec
Subtotal	@Round(@Total (#30,#10),2)	50,I
File#	@Text(#50<>0 AND #10<>#200,#10)	60
Amount	@Text(#50<>0 AND #10<>#200,#50)	70,T,F(M,C)
Repeat File#	#10	200,I

Both of these report specs produce a report like this:

```
File#     Amount
-----  ------------
5035          $0.28
5110CP       $20.00
5130CP     -$375.00
5330      $5,606.43
737F   -$115,188.65
753F   -$164,775.01
762F     $54,628.42
773F      $7,944.00
====== ============
Total: -$212,139.53
```

The reports generate a subtotal in column #50 whenever the sorted File# changes. (The File# value is repeated in column #200.) Two derived columns (#60 and #70) perform a test to see if the subtotal doesn't equal zero, then perform a test to see if the File# in column #10 is the same as the File# in column #200. Q&A evaluates columns in numbered order. Because columns #60 and #70 fall between columns #10 and #200, the File# and its corresponding discrepancy prints whenever the subtotal is non-zero.

Remove a Character from a Field

DOS WIN

I want to use Mass Update to replace a specific character (a comma, in this case) with a blank space. One or more commas could be anywhere in the field. Is there an Update Spec that will do this?

Bud Williamson, Teaneck, New Jersey

You can use the @Replace feature. The syntax is @Replace(*A,B,C*) where *A* is the field being acted on, *B* is the character (or string) you want to replace, and *C* is the value (or string) you want to replace B with. To replace a single character such as a comma, at the Mass Update Retrieve Spec, move to the field that contains the commas you want to replace, and type **"..,.."** (two periods, a comma, then two more periods). This "wildcard" retrieval parameter will select all the records where that field contains a comma anywhere in it.

Stumped? Send your Q&A questions 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, phone number, and your Q&A version number (and whether DOS or Windows) and a detailed description of the problem. We'll publish those questions we feel are of general reader interest; individual responses aren't possible.

Press F10 to continue to the Update Spec, and enter the following statement in the field that contains the comma(s). (Be sure you type one space between the last two quote marks):

```
#1 = @Replace(#1, “,”, “ “)
```

Press F10 to run the Mass Update, and every comma in the field will be replaced with a space.

The @Replace command has the following two variations that let you replace just the *first* or *last* occurrence of a character (or string) in a field:

> @Replfir(*A,B,C*), where *A* is the field, *B* is the *first* occurrence of the value being replaced, and *C* is the replacement value.
>
> @Repllas(*A,B,C*), where *A* is the field, *B* is the *last* occurrence of the value being replaced, and *C* is the replacement value.

Separating Records Into Groups

We need to sort our mailing list by ZIP Code and Last Name, then distribute the records into three groups. The distribution doesn't have to be random, we just want to be able to identify and select records by group 1, 2, or 3.

Kurt and Joann Lenz, via the Internet

First, add a new field named **Group** to the database, and be sure to format it *N* for numbers. Next, you'll need to reset the database's @Number. To do this, display any record, press Ctrl-F8, make a note of the existing number, if any, and enter 0 (zero). (If you've been using the @Number in this database, you'll need to reset it to that number once you've completed the following procedure.)

Select Mass Update, and leave the Retrieve Spec blank. Press F8, and fill out the Sort Spec for the sort order you need. Press F10 for the Update Spec, and type the following program in your new Group field:

```
#1 = @Number; #1 = @Mod(#1, 3); If #1 = “0” then #1 = “3”
```

Press F10 to run the Mass Update. When it's done, the Group field in each record will contain a 1, 2, or 3, and you'll have about the same number of records in each group. You can now retrieve a specific set of records by entering one of these numbers in the Group field at the Retrieve Spec.

The first part of the update program uses the @Number function to return a number that's one higher than the last one. In the second part, the @Mod function divides the @Number by 3, and places the whole number remainder (0, 1, or 2) in the field. The third part replaces a 0 (which means the number was evenly divisible by 3) with a 3.

XLookup the Most Recent Record

In my Jobs database, I use XLookups on part numbers to retrieve data from a Quotes database. Sometimes, though, the retrieved data is from an outdated quote. All quotes are kept in the Quotes database, and there can be several records for the same part. This is so the quote history for any part is available. How can I XLookup the most recently-quoted part number?

Denise Wilson, Anderson, Indiana

XLookups retrieve data from the first matching record found. If several records match—the part number, in your case—who knows which one Q&A will find first?

One solution is to have another database (Quotes2) that contains *only one record* for each part number. You'd Xpost each new quote to it using a series of *If @Add then Xpost(...)* commands. Make Quotes2 the lookup file in your Jobs database, and you'll retrieve the most recently quoted price and still have your quote history.

Of course, whenever you add a *new part number* to Quotes, you'll first have to add that same part to Quotes2, so Q&A will have a matching record to post to. (You can have Q&A create new Quotes2 records on-the-fly as needed. See “Automatically Create Records to Post To” in the March 1996 issue.) The tough part will be isolating the most recently quoted part number records in Quotes to initially fill the new Quotes2 database.

For a solution that doesn't require another database, you could add a Speedy field (**Code)** to Quotes to store the quoted part plus an auto-incremented suffix. This program adds a six-digit number to a newly-quoted part:

```
If @Add then Code = Part + @Rt("000000" + Str(@Number), 6)
```

This way, a new quote on Part *BX233XT* would fill the Code field with something like *BX233XT000045*—a value that's greater than all previous quotes on the same part. (You can Mass Update the database using the same program without the *If @Add*, as long as you update the records in part number then quote date order.)

You could then use an XLookupR (range) command like the following in your Jobs database's **Part1** field to retrieve any part number's most recent quote:

```
> XLookupR(“Quotes”, Part1 + "999999", "Code",
  "Price", Price1, “Description”, Desc1);
```

When adding a Jobs record, you'd enter the part number in the **Part1** field. Q&A would temporarily tack “999999” onto it, find the Quotes record for that part with the *next lowest Code* (the one most recently quoted), and retrieve its price and description. Of course, your part numbers would have to be 10 characters or less for this to work reliably, and the logic would break down at the millionth quote.

T.J. Shuflin is a forensic chemist and crime lab director in Alexandria, Louisiana. He served as the National Q&A User Group's first president in 1991-92, and maintains the group's Web site at http://www.qaug.com.

The Program Spec

Real-Time Inventory Tracking

JEFF NITKA

If you're using XPost to keep your inventory up to date, you could be playing with fire.

WHEN Q&A 5.0 arrived, its new XPost feature filled me with ideas. But I had to think twice about most of them when I realized the potential risks to data integrity that could result from using XPost carelessly.

The problem isn't with XPost, it's with Q&A. Q&A can't execute a program when you delete a record (like it can when you display or save a record). If it could, XPost would be more reliable for tasks such as keeping inventory up to date in real-time.

But record deletion isn't the only consideration in designing a stable method for real-time inventory updating. I'll point out a few others in the context of a simple sales order database with three lineitems. I'll assume that each sales order has a unique sales order number (a Speedy field), along with at least an item and quantity field for each lineitem. I'll also assume there's a product database that contains a Qty on Hand field.

So what's the problem?

Suppose you want to update inventory this way: You fill in the sales order in the usual manner. As you enter each item, programming displays the current Qty on Hand from the matching product record. You finish the order, and when you save the record, your XPost programming subtracts the quantities from the Qty on Hand fields of the pertinent product records.

On the surface, this looks straightforward. But what happens if you perform either of the following actions:

- Change an item or a quantity on a previously saved sales order?

- Delete one or more previously saved sales orders?

What happens is that your inventory gets screwed up. So what does it take to account for these possibilities?

Subtracting from inventory

The logical time to update inventory is when a sales order is committed—that is, saved to disk. To do this, you place your inventory update program in an on-record-exit field. Assuming there could be up to three items on the order, you need a conditional XPost for each one. Here's a program you might be tempted to use:

```
If Item1 <> “” then
XPost(“Products”,Item1,“ItemNo”,Qty1,“Qty on Hand”,“Sub”);

If Item2 <> “” then
XPost(“Products”,Item2,“ItemNo”,Qty2,“Qty on Hand”,“Sub”);

If Item3 <> “” then
XPost(“Products”,Item3,“ItemNo”,Qty3,“Qty on Hand”,“Sub”)
```

This program is bladly flawed. For one thing, it doesn't say whether the record is new or being updated. Not only will it blindly re-post to inventory if you resave a record in Update mode, it doesn't take into account the possibility that you might change one or more of the quantities or items.

The following on-record-exit program addresses these possibilities. An explanation follows it:

```
>#1: If @Modified then {

Rem “Check to see if this is a new record.”;

If @XLu(@Fn, OrderNo, “OrderNo”, “OrderNo”) <> “” then
{ Rem “Requires two fields, TempItem and TempQty.”;

TempItem = “”;
XLu(@Fn, OrderNo, “OrderNo”, “Item1”, TempItem, “Qty1”,
     TempQty);

If TempItem <> “” then
XPost(“Products”, TempItem, “ItemNo”, TempQty, “Qty on
      Hand”, “Add”);

TempItem = “”;
XLu(@Fn, OrderNo, “OrderNo”, “Item2”, TempItem, “Qty2”,
     TempQty);

If TempItem <> “” then
XPost(“Products”, TempItem, “ItemNo”, TempQty, “Qty on
     Hand”, “Add”);

TempItem = “”;
XLu(@Fn, OrderNo, “OrderNo”, “Item3”, TempItem, “Qty3”,
      TempQty);

If TempItem <> “” then
XPost(“Products”, TempItem, “ItemNo”, TempQty, “Qty on
     Hand”, “Add”); };

If Item1 <> “” then
XPost(“Products”,Item1,“ItemNo”,Qty1,“Qty on Hand”, “Sub”);

If Item2 <> “” then
XPost(“Products”,Item2,“ItemNo”,Qty2,“Qty on Hand”, “Sub”);

If Item3 <> “” then
XPost(“Products”,Item2,“ItemNo”,Qty2,“Qty on Hand”, “Sub”);
}
```

First, the program needs to prepare to update inventory only if a change has been made to the record.

The *If @Modified* command takes care of this.

Next, the program uses *If @XLu(@Fn, OrderNo, "OrderNo", "OrderNo") <> ""* as a check to see if the record was previously saved. If the sales order is already on disk, the program must be prepared, in effect, to *undo* the earlier adjustments made to inventory. (I don't use *If @Add* or *If @Update* here because the possibility exists that a user might change a saved record in Add Mode.) After this part of the program executes, the final three conditional statements update inventory as though the record was being created for the first time.

Now, what happens if you adjust a price—but not a quantity—on a previously saved sales order? The change would make @Modified return *Yes*, so the program would execute when the record is resaved. The quantities would be added back into inventory, only to be subsequently subtracted—resulting in a wash. The inventory would remain the same.

The program also addresses the possibility that you've changed an item (product) on the order. In this case, the original item (in the sales order stored on disk) will have its quantity restored in Products.dtf, while the new item will have its quantity reduced.

For databases with a lot of lineitems

If the sales order database has more than just a few lineitems, you can write a more compact program that loops through them. The following on-record-exit program requires a numeric field named **Ptr**, and a Yes/No field named **Exists**. It assumes 15 lineitems, but can accommodate fewer or more by adjusting the *If Ptr <= 15* parameter:

```
>#1: Exists = @XLu(@FN,OrderNo,"OrderNo","OrderNo") <> "";
     Ptr = 1; Gosub Exists

Exists
<  Rem "This program assumes 15 lineitems";
    If   Ptr <= 15
    then { If  Exists then
        { TempItem = "";
          XLu(@Fn, OrderNo, "OrderNo", "Item"+@Str(Ptr),
              TempItem, "Qty" +@Str(Ptr), TempQty);
          If TempItem <> "" then
          XPost("Products", TempItem, "ItemNo", TempQty,
               "Qty on Hand", "Add") };
          If @("Item"+@Str(Ptr)) <> "" then
          XPost("Products", @("Item"+@Str(Ptr)), "ItemNo",
              @("Qty"+@Str(Ptr)), "Qty on Hand", "Sub");
          Ptr = Ptr + 1; Goto Exist }
   else Return
```

Deleting sales orders

Because Q&A can't execute a program when a record is deleted, there's no way to update inventory (restore the quantities) when a sales order is deleting by pressing F3. However, you can create a macro that adjusts inventory for the sales orders to be deleted, then deletes them.

Before recording the macro, you'll need to create and save a Mass Update Spec. From the Main menu, select File / Mass Update, enter the filename, and press F10 to move past the Retrieve Spec to the Update Spec. Press F6 to open the first field (the macro will assume the first field on the form contains the sales order numbers), and type the following program:

```
#1:  If Item1 <> "" then
    XPost("Products", Item1, "ItemNo", Qty1, "Qty on
        Hand", "Add");

     If Item2 <> "" then
    XPost("Products", Item2, "ItemNo", Qty2, "Qty on
        Hand", "Add");

     If Item3 <> "" then
    XPost("Products", Item2, "ItemNo", Qty2, "Qty on
        Hand", "Add");
```

Close the field, then save the Spec by pressing Shift-F8, assigning a name to it (*Readjust*, for example), then pressing Enter.

The delete macro

The following macro (named *Delete*) assumes your Update Spec is in place, and your Q&A menus are set to automatic execution. It's short and sweet:

```
<begdef><altD><name>"Delete"<vidon><esc><esc><esc>FM<capsf4>ORDERS
<enter><wait><enter><enter><home><home><f11><f10><altf8>Readjust
<enter><f10>N<esc><esc><esc>FR<enter>S<f12><f10><lft><enter>
<esc><esc><esc><esc><enddef>
```

The macro performs these steps:

1. Selects Mass Update for the sales order database (in this case, Orders.dtf), and prompts at the Retrieve Spec for one or more sales order numbers to delete.

2. Copies the sales order numbers to the clipboard, presses F10 for the Update Spec, loads the saved *Readjust* Spec, and runs the update program to add the quantities from the selected sales orders back into inventory.

3. Goes to the Remove Spec of the same database, pastes the sales order numbers into the first field, then deletes the records.

To maintain an accurate on-hand inventory, any sales orders would have to be deleted this way. If they were deleted manually, then inventory adjustments would also have to be made manually.

Conclusion

When your inventory is up-to-date, you can be confident showing users the on-hand quantities as they write sales orders. Using XLookups and @Msgbox, you can further expand the application to display a warning message should a user enter a quantity that exceeds what's on hand for the item.

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Picklists. . . *Continued from page 2*

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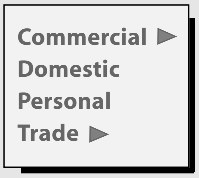
Snazzier Picklists



```
Commercial ▶
Domestic
Personal
Trade ▶
```

Instead of using two periods to identify a category that contains subcategories, you might want to use the Windows 95 convention of a space followed by a right-pointing arrowhead—ASCII graphics character 16. To type this character, press Alt-F10, then hold down the Alt key while typing 16 on the numeric keypad. Add this "suffix" (a space and ASCII 16) to the pertinent Categories in Category.dtf, and use it in place of the two periods in the programming of the two fields in the main database.

Create this Handy Report

A useful report can be produced from a database with category and subcategory fields. Here are some sample specs, followed by a sample report:

Retrieve Spec: All records (optionally excluding any with a blank Category field)

Column/Sort Spec:

```
   Category : 1, AS, CS, R
Subcategory : 2, AS, CS, R
```

This Column/Sort Spec assumes the following Report Global Format Options:

```
Default to repeating values:  Yes
Action on blank value......:  Leave blank
Action on column break.....:  Skip line
```

Derived Columns:

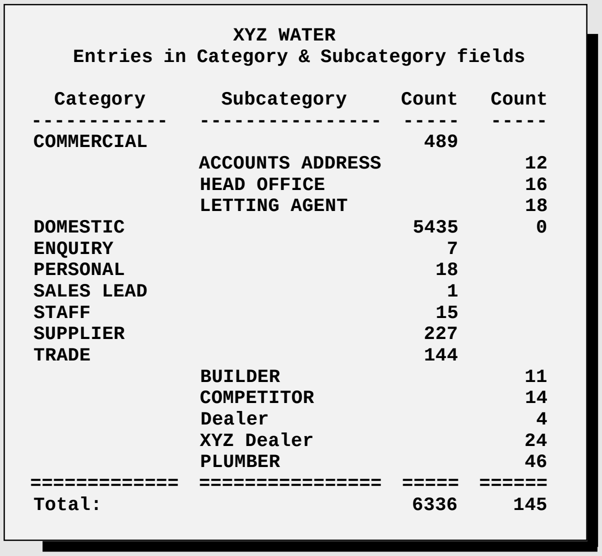
```
Heading: (copy Category field)
Formula No. 1:  #1
Column/Sort Spec: 25,I

Heading: Count
Formula No. 2: @Text(#25<>#1,@count(#25,#1))
Column/Sort Spec: 10,T,F(N0,JR)

Heading: (copy Subcategory field)
Formula No. 3: #2
Column/Sort Spec: 30,I

Heading: Count
Formula No. 4: @Text(#30<>#2,@count(#30,#2))
Column/Sort Spec: 15,T,F(N0,JR)
```

These Specs produce a report like the following. The first Total is the number of records in the report, and the second Total is the number of subcategory entries in them.



```
                    XYZ WATER
     Entries in Category & Subcategory fields

  Category       Subcategory     Count   Count
------------   ---------------   -----   -----
COMMERCIAL                         489
               ACCOUNTS ADDRESS              12
               HEAD OFFICE                   16
               LETTING AGENT                 18
DOMESTIC                          5435        0
ENQUIRY                              7
PERSONAL                            18
SALES LEAD                           1
STAFF                               15
SUPPLIER                           227
TRADE                              144
               BUILDER                       11
               COMPETITOR                    14
               Dealer                         4
               XYZ Dealer                    24
               PLUMBER                       46
=============  ================  =====  ======
Total:                            6336     145
```

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