"JUST ONE MORE THING": Tweaking and Embellishing Access Queries
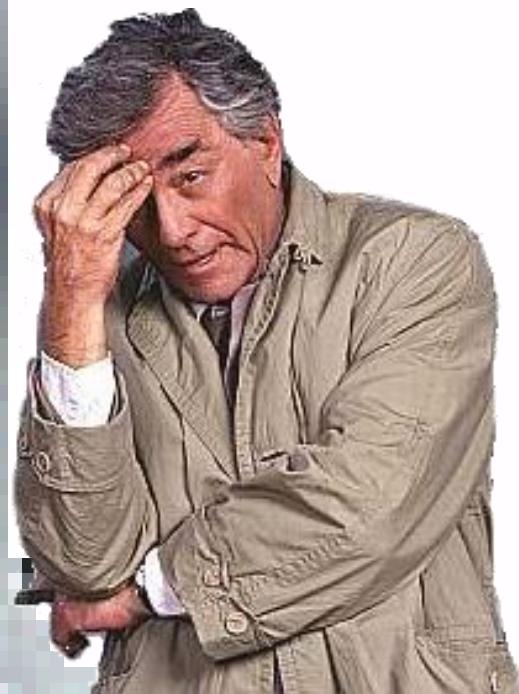
starring:
Microsoft Access

episode produced by:
Alan Manifold

Systems Implementation Manager
Purdue University Libraries
manifold@purdue.edu

THE PROBLEM

There are always new things to add
There are always new queries to write
Many queries are actually wrong

Like good detectives, we have to keep going back until we get everything nailed down.

QUERY MAINTENANCE

Because you keep going back to queries, make them easy to maintain. Which of these would you rather tweak?

LOCATION_ID
LOCATION
☐
"120" Or "121" Or "123" Or "124" Or "126" Or "127" Or "129" Or "130" Or "131" Or "122" Or "125" Or "128" Or "119"

LOCATION_CODE
LOCATION
☐
Like "life*"

They do the same thing, but the bottom one is much easier to follow.

FLEXIBILITY

Seize every chance to make your queries more flexible.

- Hard-code as little as possible
- Use prompts for criteria
- Permit a wide range of criteria
- Include intermediate tables

FIRST: ANALYZE QUERY

It is foolhardy to start tweaking a query if you don't really know what it does. If it's one of your queries, you have a headstart.
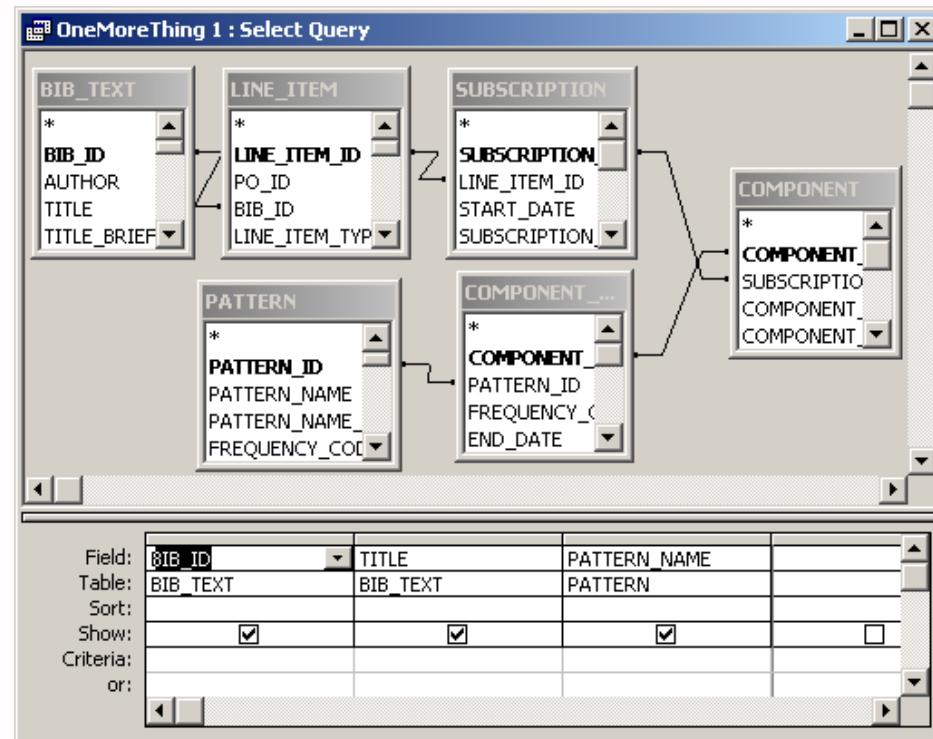
BE THE MACHINE

Talk yourself through the query.
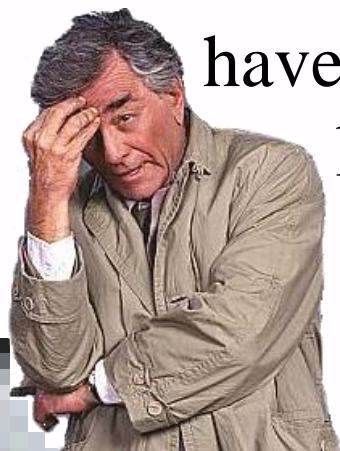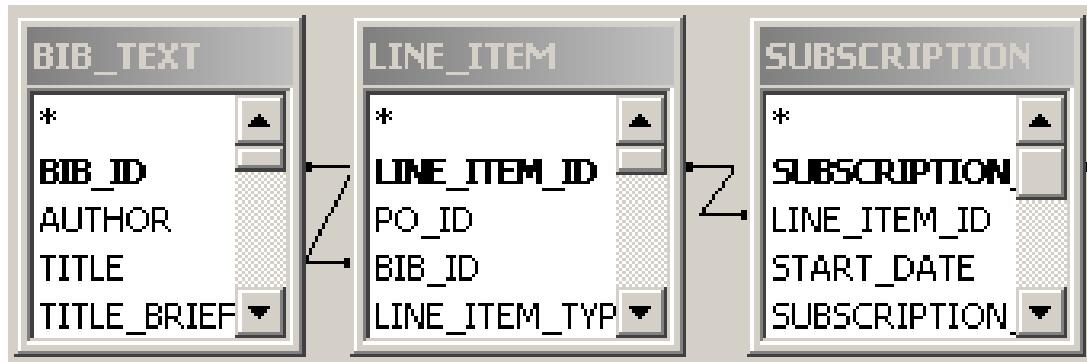
"Each bib is linked to its line item. If we don't have an order, the bib will be dropped. We link each line item to a subscription. If it's a monograph, there won't be one, so the results will only include serials and continuations."

KEEP TALKING

"Each subscription is linked to a component, and each component is linked through the COMPONENT_PATTERN table to the pattern defined for that component. So, we end up with each serial we receive being linked to the associated pattern."
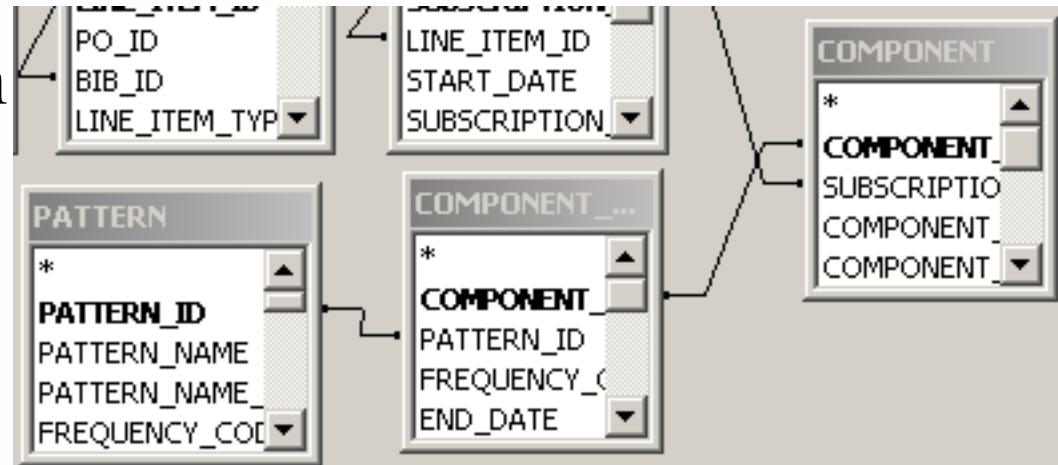
NOW THE BOTTOM PART

BIB_ID ▼	TITLE	PATTERN_NAME	
BIB_TEXT	BIB_TEXT	PATTERN	
☑	☑	☑	

"We have a list of each bib record linked with its pattern. Now, we grab the BIB_ID and TITLE from one end and the pattern's name from the other. So, for each serial that has a subscription (current or ceased) and a component, we will see the title, along with the name of the pattern we're using to receive it."
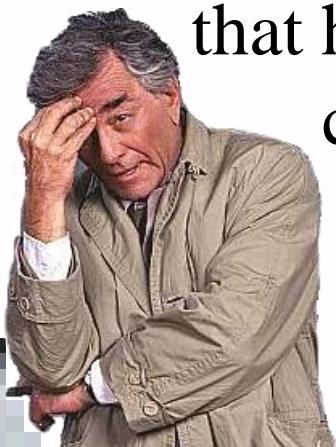
TWEAK ONLY NOW

Now that you understand the current query, you can consider adding to it.

"I'd like to find all of our serials that come more frequently than once a month. The frequency should be associated with the pattern, so this query should be a good place to start. I will need to locate the frequency information, then add criteria that will screen out the monthlies and less frequent patterns."
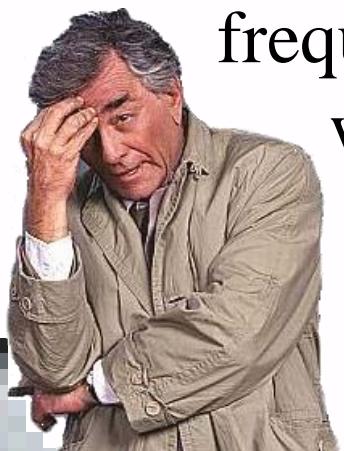
Frequency > "Once a Month"

LOOK AT THE TABLES!!!

You want specific frequencies, but you need to know how that information is stored. The ONLY WAY is to look at the tables themselves.
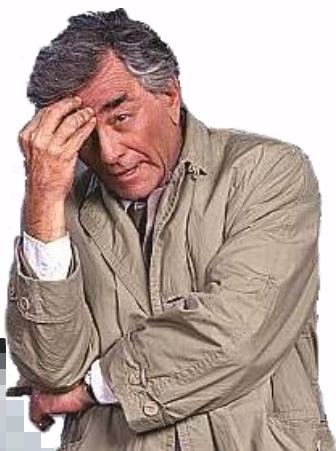
▦ PATTERN : Table				
	PA	PATTERN_NAME	PA	FREQUENCY_CODE
▶	1	3x/yr--v.,no.,yr.,mo.	3X	t
	2	Annual--yr.	AN	a
	3	Annual--ed.,yr.	AN	a
	4	Annual--v.,yr.	AN	a
	17	Bimonthly--v.,no.,yr.,mo.(single)	BIN	b
	6	Biennial--ed.,yr.	BIE	g
	7	Biennial--v.,yr.	BIE	g

SOMETHING'S MISSING

WHAT'S IT CALLED?

"Pattern— something?
No, there doesn't seem to
be one. How about
Frequency— something?
BINGO!"

LOOK AT THE TABLE!!!

FREQUENCY : Table

FREQUENCY_D	FREQ_INCREM	FREQ_CALC_TYPE
Annual	1	y
Bimonthly	2	m
Semiweekly	3	d
Daily	1	d
Biweekly	14	d
Semiannual	6	m

Record: 16 of 16

WHAT WILL BE EASIEST TO MAINTAIN?

You could specify:
Frequencies *(e.g. "Semiweekly", "Daily")*,
Codes *(e.g. "c", "d", "e", "w")*
or you could just check for
FREQ_CALC_TYPE = "d".

ADDING A TABLE
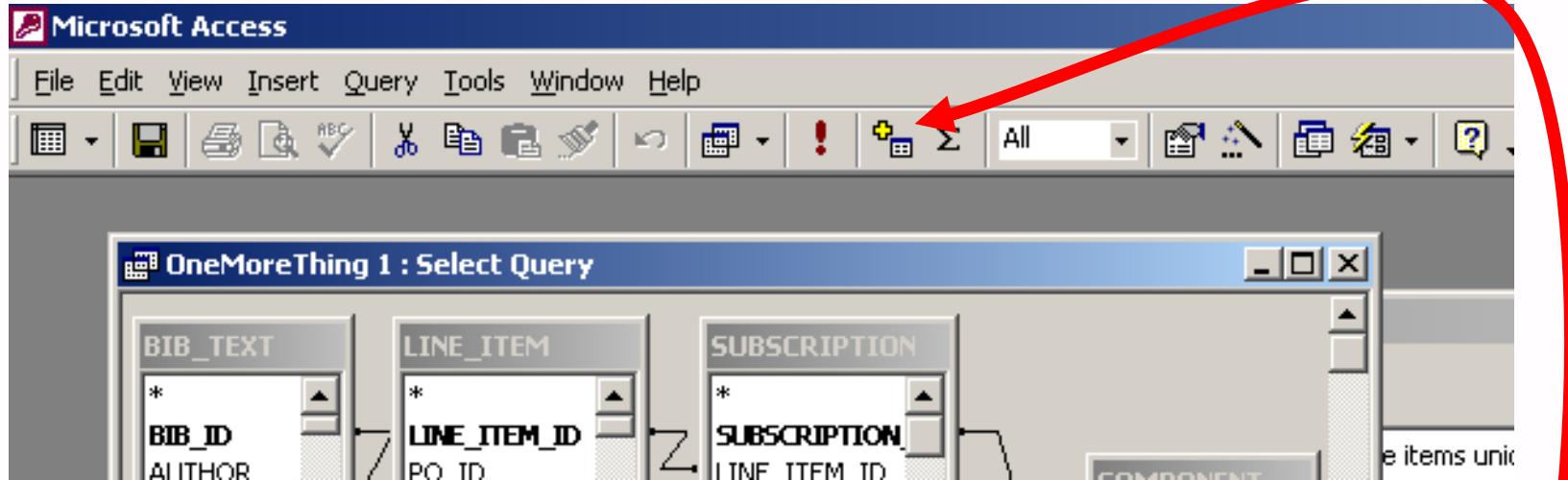
To add a table to an existing query, open the query, and find the icon in the toolbar for "Add Table"

TEST THE QUERY

Do a test run to see if:

BIB_ID	TITLE	PATTERN_NAME	FREC
10109	Middle English dictionary. Hans Kurath	Weekly (yr.- contin)	d
27614	Historisch-kritische Gesamtausgabe de	Weekly (yr.- contin)	d
27970	Computers & structures.	Semimonthly (v.,no.,yr.,mo.)	d
27970	Computers & structures.	Semimonthly--4v.,no.,yr.,mo	d
27970	Computers & structures.	Semimonthly--v.,no.	d
28212	Current papers in physics.	Semimonthly (consec.no.,yr.,mo.,day)	d
28841	Journal of low temperature physics.	Semimonthly (4v.,6no.)	d
28982	American journal of cardiology.	Semimonthly (2v.,no.,yr.,mo.)	d
28982	American journal of cardiology.	Semimonthly--2v.,12no.,yr.,mo.	d
28982	American journal of cardiology.	Weekly (2v.,no.,yr.)	d
29094	Biological psychiatry.	Semimonthly--2v.,no.,yr.,mo.,day	d
29115	Circulation research : a journal of the A	Semimonthly (2v.,no.)	d
29115	Circulation research : a journal of the A	Semimonthly (2v.,no.,yr.,mo.)	d
31725	Progress in surface science.	Semimonthly (3v.,8no.)	d
32014	Computer physics communications.	Semimonthly (8v.,3no.,yr.)	d
32014	Computer physics communications.	Semimonthly (8v.,no.,yr.,mo.)	d

Record: 19

* All of the returned results make sense

* All expected records are returned

WHAT DID WE JUST DO?

Analyze one or more queries
Know what you need to change
Find the tables and fields you will need
Make changes, one at a time
Test the query with each change

*The same process applies to your own queries, queries from elsewhere or the prepackaged queries.*

JOIN SIDE EFFECTS

Joining tables often results in more or fewer records in the results.

One record per bib

One record per MFHD
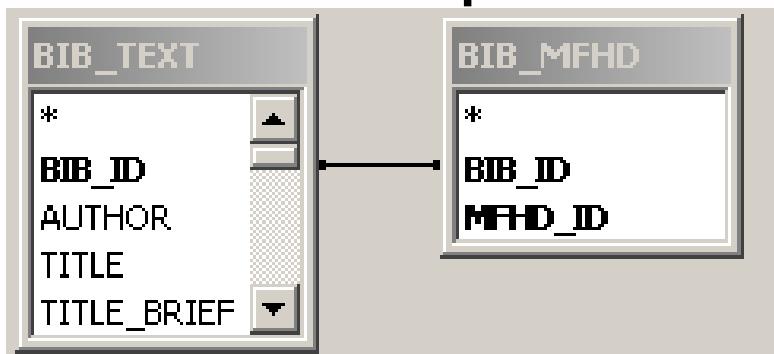
More…

JOIN SIDE EFFECTS

All patron barcodes

Less…

Only patron barcodes with proxies
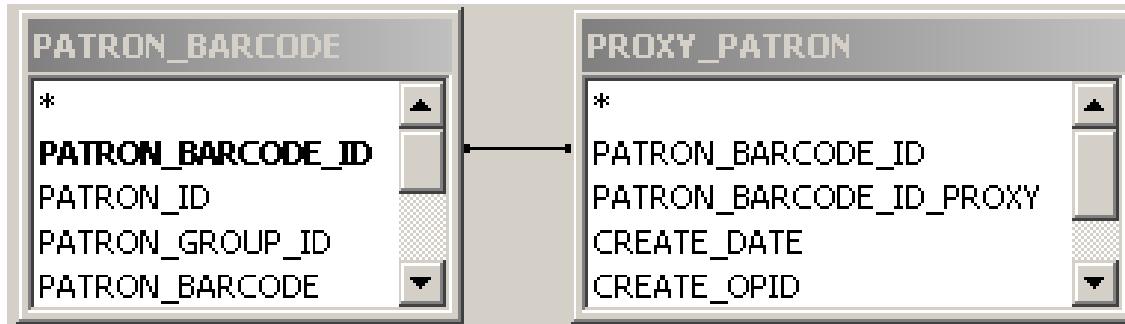
ADDING AND DELETING

If you don't know how a new table will affect a query, test!

CRITERIA ISSUES

Placement and appropriateness

Operators: comparison, Boolean, Between

Pattern matching

Prompting

  Dates and criteria

   Criteria with grouping

ITEM_STATUS_DESC	CIRC_TRANSACTION_ID
ITEM_STATUS_TYPE	CIRC_TRANSACTIONS
☑	☐
"Lost--System Applied"	Is Null

CRITERIA PLACEMENT

Put criteria on the "Criteria" line under the field to which they apply.

| Field:	BOOKING_START	CREATE_OPID	MEDIA_SCHEDULE_	MEDIA_TYPE_ID
Table:	MEDIA_SCHEDULE_ARCHIVE	MEDIA_SCHEDULE_	MEDIA_SCHEDULE_	MEDIA_SCHEDULE_
Sort:				
Show:	☑	☑	☑	☑
Criteria:	>#8/1/2002# And <#9/1/2002#	"medstudent"	"2"	"1" Or "2" Or "3"
or:				
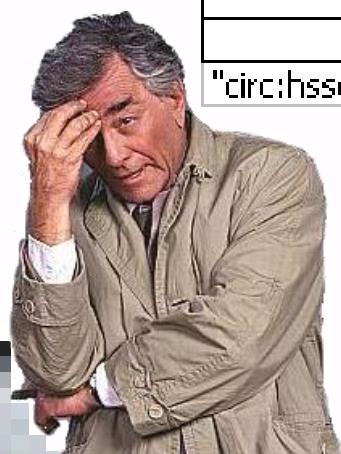
LOCATION_CODE
LOCATION
☐
"circ:hsse"

ITEM_STATUS_DATE	ITEM_STATUS_DESC
ITEM_STATUS	ITEM_STATUS_TYPE
☑	☑
Between [start] And [end]	"Not Charged"

INDEX_CODE
BIB_INDEX
☑
Like "650*"

PO_STATUS_DESC	Mid([FIELD_008],19,1)
PO_STATUS	
☐	☐
"Pending" Or "Approved/Sent" Or "Received Partial"	<>" " And <>"u"

APPROPRIATE CRITERIA

Be sure your criteria make sense with the actual values in the field you are using them with.

Run the query without criteria to see what the values are.

LOCATION_ID
LOCATION

☑

"ugrl,chlt"

This one won't work as is.

	MFHD_ID	LOCATION_ID	SUPPRESS_IN_OPAC
▶	1307588	83	N
	1306962	119	N
	1303892	99	N
	1304038	60	N
	1308065	83	N
	1308041	99	N
	1304231	59	N
	1307808	83	N
	1308092	99	N
	1307616	83	N

ugrl,chlt without barcodes : Select Query

Record: ◄ ◄ 1 ► ►► ►* of 300965

CRITERIA & OPERATORS

Add operators to specify more complex criteria than simple equality.

Boolean:
And
Or
Not

Comparison:
<>
<
>
<=
>=

Combined:
>10 And <15
<> "this" And <> "that"
"VHS" or "CD-ROM"

Between:
Between 5 And 10
Between #6/4# And #6/5#

PATTERN MATCHING

With text fields, you can do pattern matching, using the asterisk as a wildcard.

LOCATION_CODE
LOCATION

☑

Not Like "GP*"

Anything that starts with "GP"

BIB_FORMAT
BIB_TEXT

☐

Like "*s"

Anything that ends with "s"

DISPLAY_CALL_NO
MFHD_MASTER

☑

Not Like "*PER*"

Call number has "PER" anywhere in it.

PROMPT FOR CRITERIA

ITEM_TYPE_CODE	LOCATION_CODE
ITEM_TYPE	LOCATION
☐	☐
[Item Type code:]	[Enter location code:]
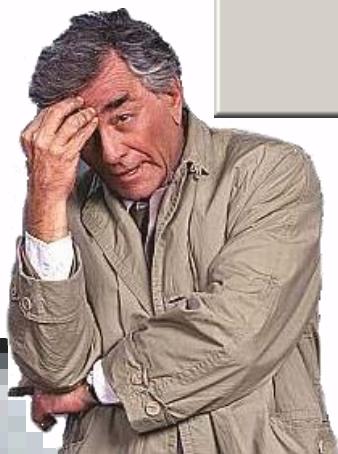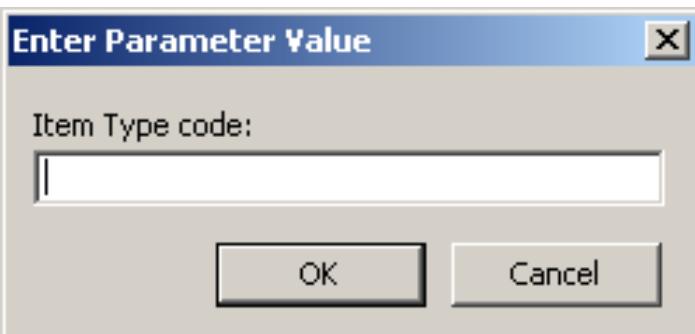
Make your queries more flexible by using prompts instead of hard-coding the criteria.

Enter Parameter Value ✕

Item Type code:

| |

OK   Cancel

When you add a prompt, make sure it clearly asks for what it wants. What does "start" want?

DATES AND CRITERIA

All Date fields in Voyager are Date/Time fields, which affects your criteria.

#02/14/2004# = #02/14/2004 00:00:00# ≠	02/14/2004 20:16:15
#03/06/2003# = #03/06/2003 00:00:00# ≠	03/06/2003 14:55:56
#02/14/2004# = #02/14/2004 00:00:00# ≠	02/14/2004 21:19:25
#02/14/2004# = #02/14/2004 00:00:00# ≠	02/14/2004 21:36:31
#02/15/2004# = #02/15/2004 00:00:00# ≠	02/15/2004 10:52:06
#09/20/2002# = #09/20/2002 00:00:00# ≠	09/20/2002 11:56:04
#02/15/2004# = #02/15/2004 00:00:00# ≠	02/15/2004 10:52:10
#12/04/2003# = #12/04/2003 00:00:00# ≠	12/04/2003 12:52:58
#02/15/2004# = #02/15/2004 00:00:00# ≠	02/15/2004 10:52:13
#02/15/2004# = #02/15/2004 00:00:00# ≠	02/15/2004 13:06:32

Date constants without times are that date at exactly midnight.

DATE RANGES
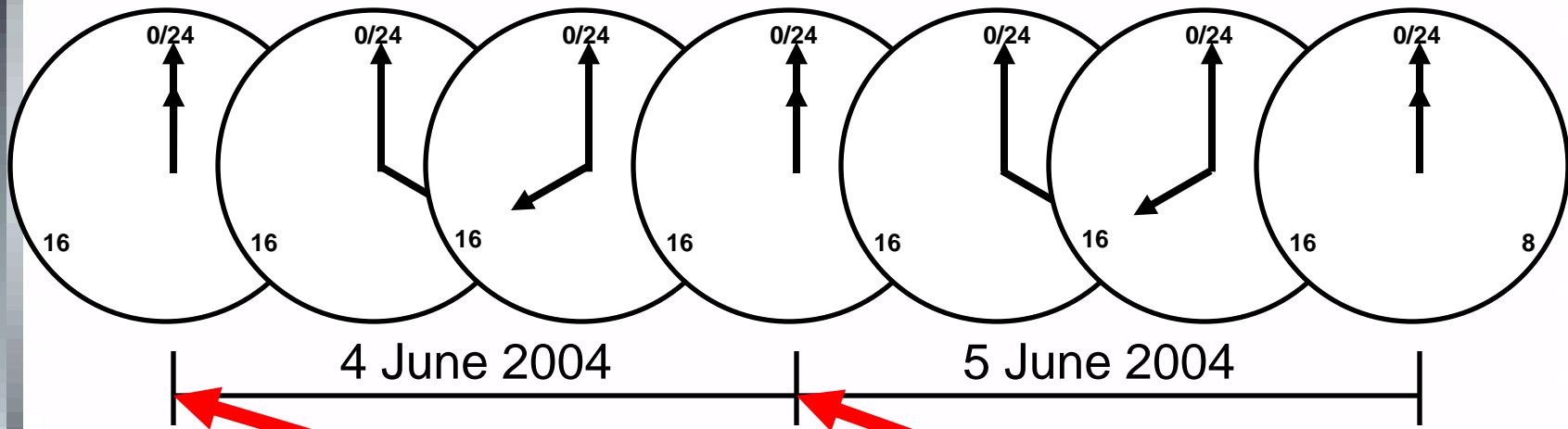
Between #6/4/2004# And #6/5/2004#
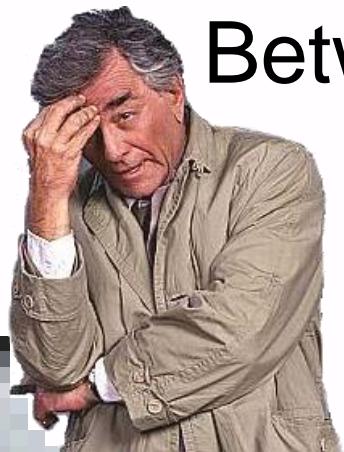
One day's data, from one midnight to the next.

EXPRESSIONS

PUB_STATUS: Mid([FIELD_008],7,1)

☑

"c"

Extract the 7ᵗʰ single character from the 008 field and check if it's a "c".

Using expressions expands the range of values that can be returned.

An expression is any transformation of current values into new values.

MORE EXPRESSIONS

USAGE: Val([HISTORICAL_CHARGES])+Val([HISTORICAL_BROWSES])

Add charges and browses, numerically

UTITLE: UCase([TITLE])

☑

Like "TEH*"

Convert title to upper case before doing case sensitive comparison

AMT: CCur([AMOUNT]/100)

Convert a monetary amount to dollars and cents

Change date to a day name to match input criteria

Expr1: Format(Weekday([CHARGE_DATE]),"dddd")

☑

[Which day of the week (spelled out):]

QUESTIONS?

If we have time, I can work through one or more examples.