**Paths in tables - Join paths**

Rows: Map.tblA
- Get tblA from the data map. Generate a component for each data row.

Rows: tblA.Where.zip = 35
- Get only the rows where the zip field is 35.

tblA.Where.name = tblCrit.Text
- Get only the rows where the zip field matches the text in tblCrit.

tblA.Where.name Like tblCrit.Text & "%"
- Wildcarding: Get only the rows where the name matches the text in tblCrit followed by any characters (%).

**SQL aggregate functions**

SQL aggregate functions need a Rows formula with a Group By. Each row links to a group of source tables. SQL aggregate functions count the source rows in the group, sums them, etc.

**Statements - event handling**

Event handler formulas. Done when event triggered.

OpenForm(F"1", 1, "ab")
- Open form F with two parameters.

OpenMulti(F"2", 2)
- Open F, keep clones of F.

CloseForm(c)
- Close c's form.

CloseMulti(F"3")
- Close all clones of form F.

SetFocus(c)
- Let c receive all keyboard events.

GetFocus(c)
- True when c receives key events.

RefreshForm(F"4")
- Recalculate all form F instances; to

Refresh(h)
- Recalculate all open forms.

RequeryForm(F"5")
- Recalculate c's form.

Requery()
- Recalculate all open forms.

Requery(h)
- Recalculate and recalculate all.

MsgBox("Go?", 0)
- Show a message box and wait for the user to click OK.

ShowPopup(s, c)
- Show the popup text s next to c.

ClosePopup(c)
- Close the popup next to c.

MsgBox("Done?", 0)
- Write the message to the log.

c ! Top = 3
- Set c's Top value to 3.

c.addr = tblA.Text
- Set the address field of c's data row to the text in tblA.

CreateRow(c)
- Create an empty row in c's primary table in memory.

DeleteRow(c)
- Delete the first of c's rows.

CommOne(c)
- Save all changes of c's rows.

CommOne(c)
- Save all changes of c's rows.

DeleteRow(c)
- Delete the first of c's rows.

CommUpdate(c)
- Cancel changes in c's rows.

CancelUpdate(c)
- Cancel changes in c's rows.

If (b) OpenForm(...)
- When b is true, open the form.

If (b) [A, B] else (C, D)
- Do C and D.

OpenMulti("F"+i)
- Open F0, F1 ... F9

Return
- Return from the event handler.

**Paths from the Me component**

The first dot or bang can be omitted if unambiguous.

Me.id
- (dot): Field in my data row.

Me ! Top
- Omitting prefixes.

Table prefix: Walk to the tblA part of my row. Get its id Field.

Find
- My number in my bundle.

Find[Me!Index-1]
- Indexing: The previous component in my bundle.

Find[Me] ! Top
- The first component in my bundle.

Find[Me] ! Last
- The last component in my bundle.

Form ! Top
- Form: Walk to my form. Get its Top.

Param[1]
- The second form parameter.

Me tblID ! Top
- Component walk: Walk to my related tblID box. Get its Top property.

Me tblID[Last] ! Top
- Walk to my related tblID box. Get its last in the list. Get its Top property.

Find-bundle
- Me is "txtActivity".

Find-bundle Me ! tblPerson
- Find the txtPerson component with id = my staffID. Bundle us having the same txtPerson. Order us by our start time.

间接参考：Walk to my staff component. Get its Top.

heading: Find txtCaption
- All of us refer to txtCaption.

**Paths to Find-bundles**

Me is "txtActivity".

Me ! staff ! Bundle[Last]
- Walk to the bundle of components referring to my staff, walk to the last component of this bundle.

Me ! Staff ! Bundle ! Index
- My index in this bundle.

Me is "txtPerson".

Me ! Bundle[txtActivity ! staff][Last]
- Find the bundle of txtActivity components referring to me through their staff property. Walk to the last component of the bundle.
**Line continuation and comments**

Top = index20.

"Comment before line"

"long text A" _"Comment in last line too"

---

**Constants**

23, -23, 0, -9E0.2

Decimal numbers

10^44.5895, 0.177

Hex and Octal

Color:Red

Keys:Enter, Kbd.Key:Font,Arial

Predefined colors

"Letter to"

Chr(65)

"John" & NewLine() "Doe"

True, False

Booleans

Null

Null and DBNull

In local format

Date/time

#24-12-2011#

24th Dec 2011

#24-12-11 14:15:00.5#

24th Dec 02 at 14:15

---

**Operators, decreasing precedence**

Nulls: Null operands give Null results and error log.

^ Exponentiation

* Multiply, Result type is Integer, Double, etc

/ Divide, Single or Double result, 5/2 = 2.5

\ Modulus (remainder), 5 \ 3 = 2

+ Add and subtract numbers and Date/Time.

Date/Time as number of days: Now() = -0.5

& String concatenation, String result

< Like "<" in Wildcard compare. % any char sequence here

Not Negation, Bit-wise negation for integers

and Logical And, Bit-wise And of integers

Eq Logical Or, Bit-wise Or of integers

A ? B : C A is true, B else C

A = B if A is true, B else C

A = B A but B is null or error. Errors are


_Init B_ When the form is opened, User actions may change the value later.

Partition(22, 0, 100, 10, 90, 20) Only in SQL

a between 3 and 9

b Only in SQL

a in (2, 3, 5, 7)

---

**Math functions**

Sqr(x) Square root of x, Sqr(3) = 3

Sin(x), Cos(x), Tan(x), Atn(x), Acos(x), Asin(x)

Trigonometric functions. R measured in radians (180 degrees = \pi = 3.141592 radian)

Sin(0) = 0, Sin(3.141592 / 2) = 1.

Pow(x, y) X to the power of y. Pow(2, 3) = 8

Log(x), y Logarithm of x with base y. Log10 (2) = 3.

Rnd() A random double number between 0 and 1.

RndInt(n) A random integer between n and m-1.

Abs(x) Returns for x = 0, x otherwise.

Hex(x) Returns a string with the hexadecimval value of x. Hex(31) = "1F"

Ocd(x) Returns a string with the octal value of x. Ocd(31) = "37"

Sgn(x) Returns 1 for x>0, 0 for x=0, -1 for x<0

Int(x) Rounds x down to nearest integral value

Fix(x) Rounds x towards zero

---

**String functions**

Nulls: Null operands give Null results and error report.

Chr(65) = "A", a one-letter string with this ascii character

Asc("AB") = 65, Ascii code for first character

Len("A", B) = length of string.

Left("abc", 2) = "ab", leftmost two characters

Left("abc", 8) = "abc", as many as available

Right("abc", 2) = "bc", rightmost two characters

Mid("abc", 2), 3 = "bc", three chars, chars 2-4

LTim("ab") = "ab", leading spaces removed

RTim("") = "", trailing spaces removed

Trim("") = "", leading and trailing removed

Lcase("A-B") = "a-b", lower case of all letters

Ucase("A-B") = "A-B", upper case of all letters

Space(5) = String of 5 spaces

NewLine() = String of one new line char

---

**Date-time functions**

Null parameters: Always give a Null result.

Now() = currentDateTime (maybe simulated)

Date() = current date, 00:00 (simulated)

ToDay() = The same as Date()

Time() = current time (simult midnight)

TimeOfDay() = The same as Time()

Date/Time as number of days: Now() = 0.5

---

Dates and times:

Day:DD(25-12-2012a) = 25, the day as integer

Month:DD(25-12-2012a) = 12, the month as integer

Year:DD(25-12-2012a) = 2012, the year as integer

Weekday(25-12-2012a) = 3 (Sunday=0)

Hour(#) 12:14:15 = 13

Minute(#) 12:14:15 = 14

Second(#) 12:14:15 = 14

DateAdd("d", 4, 30-12-2012a) = 03-01-2013# (scientific)

"y" "m" "d" "h" "n" "s"

Year, month, day, hour, minute, second.

Timing() = Number of seconds since midnight, with fractional seconds.

DateSerial(2012, 12, 25) = 1212252012# (003)

TimeSerial(12, 28, 48) = 0.52 (Time 12:28:48)

---

**Conversion and test functions**

Nulls: Null operands give Null results and error log.

System.SysTime() = current system time.

SysTime() = current system time.

System.SysTime() = current system time.

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System.SysTime() = current system time.

System.SysTime() = current system time.

---

**Common component properties**

Rows: tblB For each row in tblA, create a component.

Rows: tblB For each tblB component, create one of me. I share tblB's data row and index.

name The name of the template, e.g. tblPerson.

tblPerson Ignore. Don't show me for the time being.

Form My Form component. Read-only.

Main The component that has my row. Read-only.

Index 0, 1, 2, ... My index in my bundle. Read-only.

Last The last index in my bundle.

Top Pixels from my canvas top to my top.

Bottom Pixels from my canvas top to my bottom.

Height Pixels between top and bottom border.

Left Pixels from my canvas left to my left.

Right Pixels from my canvas left to my right.

Width Pixels between my left and right border.

BackColor Color of my inner area.

BorderColor Color of my border.

Weight Number of pixels across my border.

Visible False if I am not visible. Default: True.

Canvas The component where I am located. It may scroll and clip me. My left and top don't change when it scrolls. Default: My form.

ZOrder Integer. On my canvas, I am above components with a lower ZOrder.

---

**Common event handlers**

Act when the event occurs

Click, DoubleClick, KeyDown, KeyUp, KeyPress

MouseDown, MouseUp, GOfocus, LostFocus

MouseEnter, MouseMove, MouseLeave