Special Functions

BEEPIF(cond)
Beeps if the condition is true and returns 1, 0 if false.
C7 = 100 BEEPIF(C7<200) : This formula will beep one time.

BEEPIF(rand>0.5) : This formula will generate a random number between 0 and 1. If the number is > 0.5, the it beeps and returns 1. Otherwise it returns 0.

CELL(atrb,adr)
Returns information about a the cell at adr. Atrb defines the type of information requested.
CELL("address",U7) = U7
CELL("row",U7) = 7
CELL("col",U7) = 21
U7 = @PI, CELL("contents",U7) = 3.141593
ADDRESS - returns the address of the cell
ROW - returns the row of the cell
COL - returns the column of the cell
CONTENTS - returns the contents of the cell
FORMAT - returns the format of the cell. Formats are:
    G - General
    Fn - Fixed Decimal n places
    Sn - Scientific Format n decimal places
    Cn - Currency format n decimal places
    ,n - Comma format n decimal places
    + - Chart Format
    Pn - Percent Format n decimal places
    T - Text Format
    H - Hidden Format
    D1 - Day Month Year Format
    D2 - Day Month Format
    D3 - Month Year Format
    D6 - Hours Minutes Seconds Format
    D7 - Hours Minutes Format
    D4 - Int'l Date Format 1
    D5 - Int'l Date Format 2
    D8 - Int'l Time Format 1
    D9 - Int'l Time Format 2
PREFIX - The string prefix in Lotus Format
PROTECT - Returns 0 if the cell is Unprotected, 1 otherwise
TYPE - b - blank cell, v - number value, l - string value
WIDTH - Returns the width of the column in characters
RANGE - Converts a single address to a range

CELLPOINTER(atrb)

Returns the value for the attribute of the current cell. This is valuable for macros. See CELL() or @CELL() for information about attributes.

CHOOSE(num,item1[,item2[,...])
Chooses the num item from the list.
CHOOSE(3,"first","second","third","fourth") = third

CHOOSE(MOD(INT(NOW)),7),"Thu","Fri","Sat",Sun","Mon","Tue","Wed") : This function returns the current day using NOW to provide the current date.

COLS(range)
Returns the number of columns in a range.
COLS(A1:H20) = 8

If RANGE1 is the name assigned to the range B1:CC200, COLS(RANGE1) = 80

HLOOKUP(code,table,offset)
Looks up code in the horizontal table. Returns the cell offset cells from the top of the first match. (See "The @HLOOKUP Function" on page55.)
If the first row contains numbers and code is less than the first value in the lookup row, !ERR is returned.   If code is greater than the first value but no exact match is found, it returns the value from the last column.
If the first row contains only strings and no exact match is found, it returns !ERR.

A1 = 1   A2 = 2   A3 = 3
B1 = $200   B2 = $400   B3 = $500

HLOOKUP(2,A1:B3,1) = $400
HLOOKUP(0.5,A1:B3,1) = !ERR
HLOOKUP(5,A1:B3,1) = $500

IF(exp,value1[,value2])
Evaluates exp. If it is a non-zero value, the result is value1. If it is a zero or a string, optional value2 is the result; otherwise, a blank is the result.
IF(5>10,"Something is wrong!","Everything is normal.") = Everything is normal.

A1 = 3400, A2 = 4000, A3 = 5000, IF(SUM(A1:A3)>12400,"Full Capacity") = Full Capacity

IFELSE(exp,value1,value2)
Evaluates exp. If it is a non-zero value, the result is value1. If it is a zero or a string, value2 is the result.
IFELSE(5>10,"Something is wrong!","Everything is normal.") = Everything is normal.

A1 = 3400, A2 = 4000, A3 = 5000, IFELSE(SUM(A1:A3)>40000,"Full Capacity","Okay") = Okay

INDEX(range,row,col)
Returns the cell that is row rows and col columns offset from the upper left corner of range.
A1 = 10, B1 = 20, C1 = 30

A2 = 3942, B2 = 4932, C2 = 5929
A3 = 4920, B3 = 5929, C3 = 9294
INDEX(A1:C3,2,2) = 9294

A10 = 1, A11 = 0, INDEX(A1:C3,A10,A11) = 3942
This function is different from "@INDEX(range,col,row)" on page152. INDEX() specifies the offset in row then column order. @INDEX() specifies the offset in column then row order.

ISERROR(exp)
Returns 1 if exp returns an error other than @NA. Returns 0 otherwise.
ISERR(@ERR) = 1 (true)

ISERR(VALUE("ABCD") = 1 (true)   :   This formula tried to convert "ABCD" to a value using VALUE().   This returns !ERR, which causes ISERR() to returns 1.

ISNA(exp)
Returns 1 if exp returns an NA error. Returns 0 otherwise.
ISNA(@NA) = 1 (true)

A1 =   34, A2 = 49, A3 = @NA, ISNA(SUM(A1:A3)) = 1   :   This formula returns 1 (true) because cell A3 contains @NA, which causes SUM(A1:A3) to evaluate to @NA also.

ISNUMBER(exp)
Returns 1 if exp returns a numeric result. Returns 0 otherwise.
ISNUMBER(FIXED(300,0)) = 0   :   This formula converts the label "300" to a string using FIXED().   It then uses ISNUMBER() to test if that result is a value and returns 0 (false).

ISNUMBER(34) = 1

A3 = +394 - 100, ISNUMBER(A3) = 1

ISREF(exp)
Returns 1 if exp is a cell or range reference. Returns 0 otherwise.
ISREF(A1) = 1 (true)

If RANGE1 has been assigned A1:C10, ISREF(RANGE1) = 1

ISSTRING(exp)
Returns 1 is exp results in a string. Returns 0 otherwise.
ISSTRING(VALUE("340")) = 0
ISSTRING(LEFT("Goodbye!",4)) = 1
ISSTRING("Random text") = 1

NEXT(value[,inc])
Returns the next logical value after value. For example, if value = "Mon", then NEXT() returns "Tue". Values for months, days, and quarters are built in. If value is a number, NEXT() adds 1 or inc to the number. For quarterly

information, it will increment the quarter. When the quarter reaches 4, the next quarter is Q1 of the next year. For example, NEXT("Q4 `92") is "Q1 `93".
NEXT("Q4 '92")   = Q1 '93
NEXT("January") = February
NEXT("Region 1") = Region 2

NOT(num)
If num is zero or not a number, 1 is the result; otherwise, 0 is the result.
NOT(34) = 0
NOT("Text") = 1

ROWS(range)
Returns the number of rows in a range.
ROWS(A1:H20) = 20
If RANGE1 is the name assigned to the range B1:CC200, ROWS(RANGE1) = 200

SAME(adr)
Takes the formula in cell adr and executes it as if it had been copied and then pasted into the current cell. This is a powerful and valuable function. You can have a master function and a series of functions that are the same. Where you change the master function, the method of calculation used by the other functions is changed. You can use SAME() in conjunction with INDEX(), @INDEX(), HLOOKUP(), VLOOKUP(), @HLOOKUP(), and @VLOOKUP() to define a formula used in a calculation rather than having a complex IF() statement. An application for this is an employee pay calculation that depends on an employee type. (See "SAME(), @SAME()" on page46.)
A1 = 1, A2 = 2

If B1 = A1 * 5 and B2 = SAME(B1), then B2 = 10 (cell A2*5).
If B1 = A1/5, then B2 changes to 0.4 (cell A2/5)
If B1= SIN(A1), B2 changes to 0.9093 (SIN(A2))

SIGNAL(cond,port,range)
If the condition is true, sends range of cells to the named Mach port.

VLOOKUP(code,table,offset)
Looks up code in the vertical table. Returns the cell offset cells from the left side of the first match.
If the first column contains only strings and code is a number, it returns the value from the last row.   If code is also a string, but doesn't match any of the table entries, !ERR is returned.

A1=A   B1=5.0
A2=B   B2=4.0
A3=C   B3=3.0
A4=D   B4=2.0
A5=F   B5=0

VLOOKUP("A",A1:B5,1) = 5.0
VLOOKUP("D",A1:B5,1) = 2.0

VLOOKUP("Incomplete",A1:B5,1) = !ERR
VLOOKUP(3.0,A1:B5,1) = 0