

DecToBin\$ function

Simple function with (very) simple demo program illustrating how to build a string containing the binary representation of a decimal number with digit grouping.

- Not too much explanation really necessary on this one. The function takes an integer argument and uses a DO...LOOP structure to repeatedly perform a logical AND operation on that argument and each sequential exponentiation of 2 until that exponentiation is greater than the original number. If the function is fed anything other than a nonzero integer value, it returns "0". I was fairly surprised at the speed of this function. Try entering a 50 or 60 digit number at the prompt.

```
[loop]
    input a$
    if a$ = "" then end
    print DecToBin$(val(a$))
    goto [loop]

function DecToBin$(decNum)
    if ((decNum <> 0) and (decNum = int(decNum))) then
        decNum = abs(decNum)
        do
            if (decNum and 2^x) then
                DecToBin$ = "1" + DecToBin$
            else
                DecToBin$ = "0" + DecToBin$
            end if

            'Comment out next line to disable digit grouping
            if not((x mod 4) - 3) then DecToBin$ = " " + DecToBin$

            x = x + 1
        loop until (2^x > decNum)
    else
        DecToBin$ = "0"
    end if
    DecToBin$ = trim$(DecToBin$)
end function
```