RANDBINA.8xp
Program Description by Aaron Cao

This program generates a series of random binary numbers for as long as you need it to run until you quit (by hitting the On button). It is very useful for creating binary seeds or for those moments when you just feel like looking at a bunch of binary numbers on your screen.

The first initial processes that we do are for optimization. First, we store a random integer from 0 to 999 into the variable D using the int( ) function. Next, we store 0 into the variable C. Finally, we do the calculation:

$$\frac{ln(D)}{ln(2)}$$

Which we store into the variable A.

Using the int( ) function again, we store int(A)+1 into A again. All of these steps simply give the power of 2 that our following For( ) loop will repeat. The For( ) loop to generate a binary number for a random integer between 0 and 999 is:

$$For(X, A, 0, -1)$$

With an If:Then statement, we store the binary number into the variable C like so:

$If(D - 2^x) \geq 0$

$Then$

$C + 10^x \to C$ (the store function)

$D - 2^x \to D$ (the store function)

Finally, we end our For( ) loop and our If:Then statement, then display C. If we put a label in the beginning of the program, then after the Disp function, we can insert a Goto function to constantly bring us back to the beginning of the program. This will make the program constantly spit out a binary number until you tell it to stop.