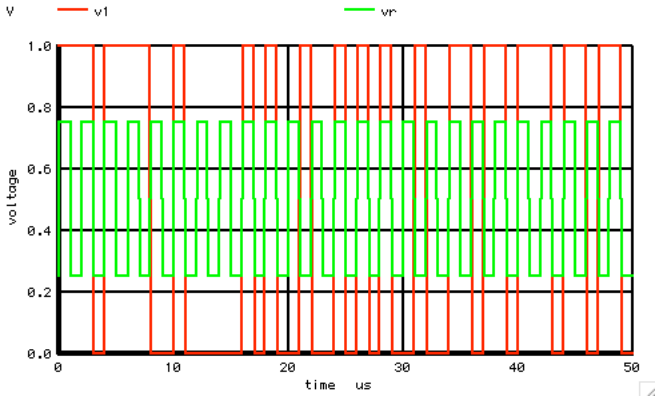
==========A_Simple_Way_To_Create_Digital_Randomness==========

1) A random signal can be generated as an array which can be applied to a voltage source as a piece wise linear input.
2) One use for this is to generate a stream of completly random ones and zeros.



==========MacSpiceCode==========

```
Simple_Digital_Randomness
*===============Need_A_voltage_Source_to_alter=====================
V1              V1      0       dc      0
Vref            VR      0       dc      0  PULSE( .25  .75 1n 1n  1n  1u 2u )
.control
set             pensize = 2
echo            "==================Want_50_1us_periods=============================="
let n =         50
let tstep =     1us
let period_t =  n*tstep
echo            "Sample_Period_s =  $&tstep"
echo            "==================Create_arrays_==============="
unlet pwl_1
unlet noise
unlet ii
let pwl_1 =     vector(4*n)
let noise =     vector(n)
let ii =        vector(1*$&n)
echo            "==================create_Noise_array======================"
let index =     0
repeat          $&n
let             noise[index] = pos(rnd(127)-64)
let index =     index + 1
end
*plot           noise  vs ii
echo            "==================create_PWL_array======================"
                pwl_1[0] = 0
                pwl_1[1] = noise[0]
                pwl_1[2] = tstep -1n
                pwl_1[3] = noise[0]
let  n2 =       n-1
let index =     1
repeat          $&n2
                pwl_1[0+4*index] = pwl_1[4*index-4] +tstep
                pwl_1[1+4*index] = noise[index]
                pwl_1[2+4*index] = pwl_1[0+4*index] +tstep -1n
                pwl_1[3+4*index] = noise[index]
let index =     index + 1
end
echo            "==================Install_the_PWL_array============================="
alter           @v1[pwl] = pwl_1
echo            "==================Run_and_Plot======================================="
let period_s =  tstep/10
*tran           1ns 100us
tran            $&period_s $&period_t   0  $&period_s
plot            v1  vr
.endc
.end
```

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dsauersanjose@aol.com
Don Sauer