

With a 10,000 bit number this is what we have:

	Expected	Actual
Number of 0's	$10000 * (.5) = 5000$	5034
Number of 1's	$10000 * (.5) = 5000$	4966
Longest Run of 0's	$\log_2(10000) = 13.29$	12
Longest Run of 1's	$\log_2(10000) = 13.29$	14
Number of 4 Runs of 0's	$10000 * (.5^6) = 156.25$	172
Number of 4 Runs of 1's	$10000 * (.5^6) = 156.25$	130
Number of 5 Runs of 0's	$10000 * (.5^7) = 78.125$	71
Number of 5 Runs of 1's	$10000 * (.5^7) = 78.125$	82
Number of 6 Runs of 0's	$10000 * (.5^8) = 39.0625$	31
Number of 6 Runs of 1's	$10000 * (.5^8) = 39.0625$	36

All of the numbers obtained from the program are all close to the value we expect to see. All of these values we obtained through the program are within 1 standard deviation of the expected value distribution respectively.