

## Current Test\_urandom.py script with 20 trials.

**Run on ATTU** python Test\_urandom.py 20

Operating system: posix

Bytes: 4	Median: 0.000020	StandardDev: 0.000010
Bytes: 16	Median: 0.000023	StandardDev: 0.000003
Bytes: 64	Median: 0.000038	StandardDev: 0.000001
Bytes: 256	Median: 0.000099	StandardDev: 0.000003
Bytes: 1024	Median: 0.000351	StandardDev: 0.000008
Bytes: 4096	Median: 0.001344	StandardDev: 0.000043
Bytes: 16384	Median: 0.005376	StandardDev: 0.000099
Bytes: 65536	Median: 0.021704	StandardDev: 0.000722
Bytes: 262144	Median: 0.087036	StandardDev: 0.001784
Bytes: 1048576	Median: 0.347659	StandardDev: 0.003015
Bytes: 4194304	Median: 1.391832	StandardDev: 0.008400

**Run on Ubuntu 8.10** python Test\_urandom.py 20

Operating system: posix

Bytes:4	Median:0.000022	StandardDev:0.000010
Bytes:16	Median:0.000026	StandardDev:0.000006
Bytes:64	Median:0.000044	StandardDev:0.000002
Bytes:256	Median:0.000110	StandardDev:0.000001
Bytes:1024	Median:0.000381	StandardDev:0.000022
Bytes:4096	Median:0.001494	StandardDev:0.000170
Bytes:16384	Median:0.003904	StandardDev:0.000976
Bytes:65536	Median:0.015448	StandardDev:0.000224
Bytes:262144	Median:0.061724	StandardDev:0.001023
Bytes:1048576	Median:0.250675	StandardDev:0.005725
Bytes:4194304	Median:0.998851	StandardDev:0.003955

**Run on testbed-opensuse.cs.washington.edu** python Test\_urandom.py 20

Operating system: posix

Bytes: 4	Median: 0.000031	StandardDev: 0.000011
Bytes: 16	Median: 0.000040	StandardDev: 0.000009
Bytes: 64	Median: 0.000038	StandardDev: 0.000004
Bytes: 256	Median: 0.000088	StandardDev: 0.000004
Bytes: 1024	Median: 0.000286	StandardDev: 0.000007
Bytes: 4096	Median: 0.001070	StandardDev: 0.000010
Bytes: 16384	Median: 0.004219	StandardDev: 0.000016
Bytes: 65536	Median: 0.016809	StandardDev: 0.000058
Bytes: 262144	Median: 0.067113	StandardDev: 0.000441
Bytes: 1048576	Median: 0.269423	StandardDev: 0.000744
Bytes: 4194304	Median: 1.078464	StandardDev: 0.026495

**Run on testbed-freebsd.cs.washington.edu** python Test\_urandom.py 20

Operating system: posix

Bytes: 4	Median: 0.000158	StandardDev: 0.000042
Bytes: 16	Median: 0.000169	StandardDev: 0.000035
Bytes: 64	Median: 0.000182	StandardDev: 0.000008
Bytes: 256	Median: 0.000205	StandardDev: 0.000021
Bytes: 1024	Median: 0.000297	StandardDev: 0.000010
Bytes: 4096	Median: 0.000664	StandardDev: 0.000029
Bytes: 16384	Median: 0.002076	StandardDev: 0.000055
Bytes: 65536	Median: 0.007775	StandardDev: 0.000128
Bytes: 262144	Median: 0.030683	StandardDev: 0.021852
Bytes: 1048576	Median: 0.131151	StandardDev: 0.036156
Bytes: 4194304	Median: 0.619245	StandardDev: 0.048232

**Run on CSE ugrad lab Windows XP machine** C:\Python26\python.exe Test\_urandom.py 20

Operating system: nt

Bytes: 4	Median: 0.000000	StandardDev: 0.017441
Bytes: 16	Median: 0.000000	StandardDev: 0.000000
Bytes: 64	Median: 0.000000	StandardDev: 0.000000
Bytes: 256	Median: 0.000000	StandardDev: 0.000000
Bytes: 1024	Median: 0.000000	StandardDev: 0.000000
Bytes: 4096	Median: 0.000000	StandardDev: 0.000000
Bytes: 16384	Median: 0.000000	StandardDev: 0.004774
Bytes: 65536	Median: 0.000000	StandardDev: 0.006935
Bytes: 262144	Median: 0.016000	StandardDev: 0.003470
Bytes: 1048576	Median: 0.063000	StandardDev: 0.007759
Bytes: 4194304	Median: 0.266000	StandardDev: 0.007921

Model Name: **Power Mac G5**

Model Identifier: PowerMac7,3  
Processor Name: PowerPC G5 (3.0)  
Processor Speed: 2 GHz  
Number Of CPUs: 2  
L2 Cache (per CPU): 512 KB  
Memory: 2 GB

python Test\_urandom.py 20

Operating system: posix

Bytes: 4	Median: 0.000034	StandardDev: 0.000052
Bytes: 16	Median: 0.000038	StandardDev: 0.000048
Bytes: 64	Median: 0.000044	StandardDev: 0.000007
Bytes: 256	Median: 0.000077	StandardDev: 0.000006
Bytes: 1024	Median: 0.000200	StandardDev: 0.000013
Bytes: 4096	Median: 0.000697	StandardDev: 0.000010
Bytes: 16384	Median: 0.002755	StandardDev: 0.000070
Bytes: 65536	Median: 0.009786	StandardDev: 0.000526
Bytes: 262144	Median: 0.038870	StandardDev: 0.000072
Bytes: 1048576	Median: 0.155037	StandardDev: 0.007164
Bytes: 4194304	Median: 0.686012	StandardDev: 0.018465

## Windows Vista 32bit

/Python26/python.exe Test\_urandom.py 20

Operating system: nt

Bytes: 4	Median: 0.000000	StandardDev: 0.006932
Bytes: 16	Median: 0.000000	StandardDev: 0.000000
Bytes: 64	Median: 0.000000	StandardDev: 0.000000
Bytes: 256	Median: 0.000000	StandardDev: 0.000000
Bytes: 1024	Median: 0.000000	StandardDev: 0.000000
Bytes: 4096	Median: 0.000000	StandardDev: 0.000000
Bytes: 16384	Median: 0.000000	StandardDev: 0.000000
Bytes: 65536	Median: 0.000000	StandardDev: 0.003354
Bytes: 262144	Median: 0.000000	StandardDev: 0.006935
Bytes: 1048576	Median: 0.046000	StandardDev: 0.016345
Bytes: 4194304	Median: 0.063000	StandardDev: 0.056414

## Original testing, comparison of urandom to /dev/random and /dev/urandom.

Operating system: posix UBUNTU 8.10

Batch\_test\_random.py 20

	/dev/random	/dev/urandom	os.urandom
Bytes: 32	<M:26.522364 S:9.867791>	<M:0.000024 S:0.000001>	<M:0.000063 S:0.000001>
Bytes: 256	<M:243.688030 S:29.007068>	<M:0.000096 S:0.000002>	<M:0.000135 S:0.000004>
Bytes: 1024	< N/A >	<M:0.000348 S:0.000005>	<M:0.000387 S:0.000007>
Bytes: 4096	< N/A >	<M:0.001357 S:0.000009>	<M:0.001394 S:0.000023>
Bytes: 16385	< N/A >	<M:0.005341 S:0.000130>	<M:0.005408 S:0.000156>

Operating system: posix ATTU

	/dev/random	/dev/urandom	os.urandom
Bytes: 32	<M:0.000064 S:2.368294>	<M:0.000025 S:0.000004>	<M:0.000070 S:0.000010>
Bytes: 256	<M:221.934690 S:1467.064205>	<M:0.000103 S:0.000016>	<M:0.000147 S:0.000017>
Bytes: 1024	< N/A >	<M:0.000374 S:0.000057>	<M:0.000419 S:0.000004>
Bytes: 4096	< N/A >	<M:0.000981 S:0.000182>	<M:0.001020 S:0.000020>
Bytes: 16385	< N/A >	<M:0.003875 S:0.000462>	<M:0.003904 S:0.000023>