

```
#####  
#  
#                      Results of RawTest                      #  
#                                                                #  
#####
```

date, time: 02/29/2004, 11:46:04
tested file: raw.dat
size of file: 10000000 bytes

```
*****  
*  
*                      Results of the frequency test          *  
*                                                                *  
*****
```

test scope: first 10000000 bytes
relative frequency of bit 1: 0.49658151

block length L = 2: chi^2 = 1.6369, p-value = 0.65104365
block length L = 3: chi^2 = 5.3494, p-value = 0.61741108
block length L = 4: chi^2 = 16.2798, p-value = 0.36370385

```
*****  
*  
*                      Results of the serial test              *  
*                                                                *  
*****
```

test scope: first 10000000 bytes
relative frequency of bit 1: 0.49658151

block length L = 2: chi^2 = 1.3301, p-value = 0.51424033
block length L = 3: chi^2 = 4.3149, p-value = 0.36505745
block length L = 4: chi^2 = 6.3452, p-value = 0.60862465

```
*****  
*  
*                      Results of the modular monobit test    *  
*                                                                *  
*****
```

test scope: first 10000000 bytes
relative frequency of bit 1: 0.49658151

modular monobit test for block length L = 3:
bit 0: rf = 0.49657329, chi^2 = 0.00721655, p-value = 0.93230090
bit 1: rf = 0.49663535, chi^2 = 0.30918430, p-value = 0.57818117
bit 2: rf = 0.49653590, chi^2 = 0.22193123, p-value = 0.63757234

modular monobit test for block length L = 4:
bit 0: rf = 0.49671885, chi^2 = 1.50899765, p-value = 0.21929210
bit 1: rf = 0.49658075, chi^2 = 0.00004651, p-value = 0.99455834
bit 2: rf = 0.49654790, chi^2 = 0.09038824, p-value = 0.76368417
bit 3: rf = 0.49647855, chi^2 = 0.84814176, p-value = 0.35707856

modular monobit test for block length L = 5:
bit 0: rf = 0.49661094, chi^2 = 0.05541575, p-value = 0.81389402
bit 1: rf = 0.49634981, chi^2 = 3.43599357, p-value = 0.06379021
bit 2: rf = 0.49640488, chi^2 = 1.99694496, p-value = 0.15761661
bit 3: rf = 0.49672350, chi^2 = 1.29032913, p-value = 0.25598731
bit 4: rf = 0.49681844, chi^2 = 3.59270910, p-value = 0.05803356

modular monobit test for block length L = 6:
bit 0: rf = 0.49661904, chi^2 = 0.07510320, p-value = 0.78404648
bit 1: rf = 0.49652334, chi^2 = 0.18050661, p-value = 0.67093823
bit 2: rf = 0.49653369, chi^2 = 0.12199177, p-value = 0.72688421
bit 3: rf = 0.49652754, chi^2 = 0.15538379, p-value = 0.69344261

bit 4: rf = 0.49674736, chi^2 = 1.46706563, p-value = 0.22580924
bit 5: rf = 0.49653811, chi^2 = 0.10046163, p-value = 0.75127636

modular monobit test for block length L = 7:

bit 0: rf = 0.49685862, chi^2 = 3.51046378, p-value = 0.06098238
bit 1: rf = 0.49678888, chi^2 = 1.96588604, p-value = 0.16088521
bit 2: rf = 0.49640406, chi^2 = 1.43964523, p-value = 0.23019676
bit 3: rf = 0.49637501, chi^2 = 1.94957163, p-value = 0.16263302
bit 4: rf = 0.49681224, chi^2 = 2.43379845, p-value = 0.11874485
bit 5: rf = 0.49631122, chi^2 = 3.33998622, p-value = 0.06761518
bit 6: rf = 0.49652061, chi^2 = 0.16958905, p-value = 0.68047729

modular monobit test for block length L = 8:

bit 0: rf = 0.49671900, chi^2 = 0.75614785, p-value = 0.38453674
bit 1: rf = 0.49674510, chi^2 = 1.07048485, p-value = 0.30083596
bit 2: rf = 0.49651470, chi^2 = 0.17856475, p-value = 0.67260958
bit 3: rf = 0.49662870, chi^2 = 0.08907057, p-value = 0.76536208
bit 4: rf = 0.49671870, chi^2 = 0.75285160, p-value = 0.38557490
bit 5: rf = 0.49641640, chi^2 = 1.09053648, p-value = 0.29635237
bit 6: rf = 0.49658110, chi^2 = 0.00000681, p-value = 0.99791837
bit 7: rf = 0.49632840, chi^2 = 2.56275730, p-value = 0.10940762

modular monobit test for block length L = 9:

bit 0: rf = 0.49662567, chi^2 = 0.06934711, p-value = 0.79228976
bit 1: rf = 0.49683166, chi^2 = 2.22498784, p-value = 0.13579373
bit 2: rf = 0.49653286, chi^2 = 0.08415881, p-value = 0.77173868
bit 3: rf = 0.49658877, chi^2 = 0.00187525, p-value = 0.96545908
bit 4: rf = 0.49659665, chi^2 = 0.00814735, p-value = 0.92807847
bit 5: rf = 0.49653601, chi^2 = 0.07361344, p-value = 0.78614648
bit 6: rf = 0.49650541, chi^2 = 0.20592119, p-value = 0.64998330
bit 7: rf = 0.49647774, chi^2 = 0.38292715, p-value = 0.53604082
bit 8: rf = 0.49653894, chi^2 = 0.06445314, p-value = 0.79959117

modular monobit test for block length L = 10:

bit 0: rf = 0.49674975, chi^2 = 0.90576574, p-value = 0.34124039
bit 1: rf = 0.49638912, chi^2 = 1.18446977, p-value = 0.27644791
bit 2: rf = 0.49633312, chi^2 = 1.97437550, p-value = 0.15998419
bit 3: rf = 0.49640213, chi^2 = 1.02980414, p-value = 0.31020467
bit 4: rf = 0.49672862, chi^2 = 0.69257918, p-value = 0.40528849
bit 5: rf = 0.49647212, chi^2 = 0.38291790, p-value = 0.53604575
bit 6: rf = 0.49631050, chi^2 = 2.35043867, p-value = 0.12524776
bit 7: rf = 0.49647663, chi^2 = 0.35206086, p-value = 0.55294884
bit 8: rf = 0.49704488, chi^2 = 6.87087498, p-value = 0.00876117
bit 9: rf = 0.49690825, chi^2 = 3.41639630, p-value = 0.06455178

```
*****  
*                                                                 *  
*           Results of the autocorrelation test                   *  
*                                                                 *  
*****
```

test scope: first 10000000 bytes
relative frequency of bit 1: 0.49658151

bit shift d = 1: chi^2 = 1.33038701, p-value = 0.24873638
bit shift d = 2: chi^2 = 1.83846480, p-value = 0.17513099
bit shift d = 3: chi^2 = 0.27465376, p-value = 0.60022694
bit shift d = 4: chi^2 = 0.60752931, p-value = 0.43571959

```
*****  
*                                                                 *  
*           Results of the dependency test                         *  
*                                                                 *  
*****
```

test scope: first 10000000 bytes
relative frequency of bit 1: 0.49658151

dependency test for block length L = 3:

bit place 1 if bit 0 = 0:
rf = 0.49655698, chi^2 = 0.03231030, p-value = 0.85734832

bit place 1 if bit 0 = 1:
rf = 0.49671484, χ^2 = 0.94154513, p-value = 0.33188079
bit place 2 if bit 1 = 0:
rf = 0.49662640, χ^2 = 0.10819666, p-value = 0.74220663
bit place 2 if bit 1 = 1:
rf = 0.49644421, χ^2 = 0.99872781, p-value = 0.31761854
bit place 3 if bit 2 = 0:
rf = 0.49675332, χ^2 = 1.58523375, p-value = 0.20800842
bit place 3 if bit 2 = 1:
rf = 0.49639078, χ^2 = 1.92681423, p-value = 0.16510741

dependency test for block length L = 4:

bit place 1 if bit 0 = 0:
rf = 0.49674456, χ^2 = 1.07044479, p-value = 0.30084500
bit place 1 if bit 0 = 1:
rf = 0.49641482, χ^2 = 1.10417384, p-value = 0.29335194
bit place 2 if bit 1 = 0:
rf = 0.49650530, χ^2 = 0.23394477, p-value = 0.62861414
bit place 2 if bit 1 = 1:
rf = 0.49659104, χ^2 = 0.00360461, p-value = 0.95212503
bit place 3 if bit 2 = 0:
rf = 0.49645319, χ^2 = 0.66326684, p-value = 0.41540899
bit place 3 if bit 2 = 1:
rf = 0.49650431, χ^2 = 0.23674499, p-value = 0.62656701
bit place 4 if bit 3 = 0:
rf = 0.49687918, χ^2 = 3.56934942, p-value = 0.05885537
bit place 4 if bit 3 = 1:
rf = 0.49655630, χ^2 = 0.02525624, p-value = 0.87373023

dependency test for block length L = 5:

bit place 1 if bit 0 = 0:
rf = 0.49646893, χ^2 = 0.40833654, p-value = 0.52281502
bit place 1 if bit 0 = 1:
rf = 0.49622913, χ^2 = 3.94684440, p-value = 0.04695935
bit place 2 if bit 1 = 0:
rf = 0.49641902, χ^2 = 0.85116062, p-value = 0.35622421
bit place 2 if bit 1 = 1:
rf = 0.49639059, χ^2 = 1.15801459, p-value = 0.28187768
bit place 3 if bit 2 = 0:
rf = 0.49663215, χ^2 = 0.08265579, p-value = 0.77373011
bit place 3 if bit 2 = 1:
rf = 0.49681611, χ^2 = 1.74852568, p-value = 0.18606218
bit place 4 if bit 3 = 0:
rf = 0.49688802, χ^2 = 3.02609779, p-value = 0.08193485
bit place 4 if bit 3 = 1:
rf = 0.49674800, χ^2 = 0.88122603, p-value = 0.34786610
bit place 5 if bit 4 = 0:
rf = 0.49681998, χ^2 = 1.83146872, p-value = 0.17595417
bit place 5 if bit 4 = 1:
rf = 0.49639928, χ^2 = 1.05601582, p-value = 0.30412565

dependency test for block length L = 6:

bit place 1 if bit 0 = 0:
rf = 0.49641673, χ^2 = 0.72902006, p-value = 0.39320101
bit place 1 if bit 0 = 1:
rf = 0.49663132, χ^2 = 0.06571177, p-value = 0.79768593
bit place 2 if bit 1 = 0:
rf = 0.49668108, χ^2 = 0.26620208, p-value = 0.60589090
bit place 2 if bit 1 = 1:
rf = 0.49638431, χ^2 = 1.02989036, p-value = 0.31018442
bit place 3 if bit 2 = 0:
rf = 0.49680815, χ^2 = 1.37930980, p-value = 0.24021875
bit place 3 if bit 2 = 1:
rf = 0.49624308, χ^2 = 3.03328295, p-value = 0.08157281
bit place 4 if bit 3 = 0:
rf = 0.49669721, χ^2 = 0.35946608, p-value = 0.54880291
bit place 4 if bit 3 = 1:
rf = 0.49679829, χ^2 = 1.24447987, p-value = 0.26460942
bit place 5 if bit 4 = 0:
rf = 0.49657170, χ^2 = 0.00258368, p-value = 0.95946108
bit place 5 if bit 4 = 1:
rf = 0.49650416, χ^2 = 0.15853316, p-value = 0.69051061
bit place 6 if bit 5 = 0:
rf = 0.49669856, χ^2 = 0.36786968, p-value = 0.54416777
bit place 6 if bit 5 = 1:

rf = 0.49653848, χ^2 = 0.04903444, p-value = 0.82475203

dependency test for block length L = 7:

bit place 1 if bit 0 = 0:
rf = 0.49691567, χ^2 = 2.56834320, p-value = 0.10902186
bit place 1 if bit 0 = 1:
rf = 0.49666040, χ^2 = 0.14137590, p-value = 0.70691699
bit place 2 if bit 1 = 0:
rf = 0.49661641, χ^2 = 0.02800849, p-value = 0.86708887
bit place 2 if bit 1 = 1:
rf = 0.49618887, χ^2 = 3.50131741, p-value = 0.06132003
bit place 3 if bit 2 = 0:
rf = 0.49635837, χ^2 = 1.14640518, p-value = 0.28430294
bit place 3 if bit 2 = 1:
rf = 0.49639180, χ^2 = 0.81677386, p-value = 0.36612510
bit place 4 if bit 3 = 0:
rf = 0.49671144, χ^2 = 0.38868183, p-value = 0.53299310
bit place 4 if bit 3 = 1:
rf = 0.49691461, χ^2 = 2.51774920, p-value = 0.11257116
bit place 5 if bit 4 = 0:
rf = 0.49624047, χ^2 = 2.67561701, p-value = 0.10189583
bit place 5 if bit 4 = 1:
rf = 0.49638296, χ^2 = 0.89535641, p-value = 0.34402989
bit place 6 if bit 5 = 0:
rf = 0.49667694, χ^2 = 0.20969348, p-value = 0.64700776
bit place 6 if bit 5 = 1:
rf = 0.49636204, χ^2 = 1.09295966, p-value = 0.29581637
bit place 7 if bit 6 = 0:
rf = 0.49699976, χ^2 = 4.02652733, p-value = 0.04479005
bit place 7 if bit 6 = 1:
rf = 0.49671558, χ^2 = 0.40800759, p-value = 0.52298251

dependency test for block length L = 8:

bit place 1 if bit 0 = 0:
rf = 0.49689537, χ^2 = 1.98318372, p-value = 0.15905541
bit place 1 if bit 0 = 1:
rf = 0.49659274, χ^2 = 0.00250510, p-value = 0.96008175
bit place 2 if bit 1 = 0:
rf = 0.49652671, χ^2 = 0.06045920, p-value = 0.80577163
bit place 2 if bit 1 = 1:
rf = 0.49650263, χ^2 = 0.12363790, p-value = 0.72512190
bit place 3 if bit 2 = 0:
rf = 0.49671430, χ^2 = 0.35513916, p-value = 0.55121830
bit place 3 if bit 2 = 1:
rf = 0.49654200, χ^2 = 0.03101540, p-value = 0.86020604
bit place 4 if bit 3 = 0:
rf = 0.49685798, χ^2 = 1.53911712, p-value = 0.21474927
bit place 4 if bit 3 = 1:
rf = 0.49657762, χ^2 = 0.00030034, p-value = 0.98617312
bit place 5 if bit 4 = 0:
rf = 0.49659375, χ^2 = 0.00301648, p-value = 0.95620022
bit place 5 if bit 4 = 1:
rf = 0.49623680, χ^2 = 2.36099831, p-value = 0.12440256
bit place 6 if bit 5 = 0:
rf = 0.49648390, χ^2 = 0.19193918, p-value = 0.66130753
bit place 6 if bit 5 = 1:
rf = 0.49667960, χ^2 = 0.19106091, p-value = 0.66203509
bit place 7 if bit 6 = 0:
rf = 0.49619214, χ^2 = 3.05313602, p-value = 0.08058141
bit place 7 if bit 6 = 1:
rf = 0.49646664, χ^2 = 0.26212656, p-value = 0.60866293
bit place 8 if bit 7 = 0:
rf = 0.49690046, χ^2 = 2.04958467, p-value = 0.15224772
bit place 8 if bit 7 = 1:
rf = 0.49653496, χ^2 = 0.04303479, p-value = 0.83565978

dependency test for block length L = 9:

bit place 1 if bit 0 = 0:
rf = 0.49661734, χ^2 = 0.02297453, p-value = 0.87952333
bit place 1 if bit 0 = 1:
rf = 0.49704878, χ^2 = 3.85561423, p-value = 0.04957977
bit place 2 if bit 1 = 0:
rf = 0.49676576, χ^2 = 0.60733438, p-value = 0.43579323
bit place 2 if bit 1 = 1:
rf = 0.49629688, χ^2 = 1.43118457, p-value = 0.23157121

bit place 3 if bit 2 = 0:
rf = 0.49688298, χ^2 = 1.62693324, p-value = 0.20212775
bit place 3 if bit 2 = 1:
rf = 0.49629035, χ^2 = 1.49673985, p-value = 0.22117367
bit place 4 if bit 3 = 0:
rf = 0.49681302, χ^2 = 0.95933912, p-value = 0.32735344
bit place 4 if bit 3 = 1:
rf = 0.49637742, χ^2 = 0.73548259, p-value = 0.39111182
bit place 5 if bit 4 = 0:
rf = 0.49640322, χ^2 = 0.56900617, p-value = 0.45065411
bit place 5 if bit 4 = 1:
rf = 0.49667074, χ^2 = 0.14057666, p-value = 0.70770841
bit place 6 if bit 5 = 0:
rf = 0.49674028, χ^2 = 0.45126453, p-value = 0.50173506
bit place 6 if bit 5 = 1:
rf = 0.49626715, χ^2 = 1.74476550, p-value = 0.18653614
bit place 7 if bit 6 = 0:
rf = 0.49624054, χ^2 = 2.08145579, p-value = 0.14909792
bit place 7 if bit 6 = 1:
rf = 0.49671816, χ^2 = 0.32965913, p-value = 0.56585987
bit place 8 if bit 7 = 0:
rf = 0.49671039, χ^2 = 0.29735363, p-value = 0.58554623
bit place 8 if bit 7 = 1:
rf = 0.49636494, χ^2 = 0.82799512, p-value = 0.36285290
bit place 9 if bit 8 = 0:
rf = 0.49663669, χ^2 = 0.05450936, p-value = 0.81539461
bit place 9 if bit 8 = 1:
rf = 0.49661461, χ^2 = 0.01934632, p-value = 0.88937820

dependency test for block length L = 10:

bit place 1 if bit 0 = 0:
rf = 0.49649926, χ^2 = 0.10896539, p-value = 0.74132511
bit place 1 if bit 0 = 1:
rf = 0.49627743, χ^2 = 1.46995355, p-value = 0.22535302
bit place 2 if bit 1 = 0:
rf = 0.49629563, χ^2 = 1.31719317, p-value = 0.25109641
bit place 2 if bit 1 = 1:
rf = 0.49637104, χ^2 = 0.70368175, p-value = 0.40154933
bit place 3 if bit 2 = 0:
rf = 0.49654844, χ^2 = 0.01763206, p-value = 0.89436281
bit place 3 if bit 2 = 1:
rf = 0.49625352, χ^2 = 1.70868659, p-value = 0.19115587
bit place 4 if bit 3 = 0:
rf = 0.49692922, χ^2 = 1.94843610, p-value = 0.16275548
bit place 4 if bit 3 = 1:
rf = 0.49652525, χ^2 = 0.05029314, p-value = 0.82255398
bit place 5 if bit 4 = 0:
rf = 0.49655777, χ^2 = 0.00907813, p-value = 0.92409303
bit place 5 if bit 4 = 1:
rf = 0.49638548, χ^2 = 0.61089001, p-value = 0.43445290
bit place 6 if bit 5 = 0:
rf = 0.49643863, χ^2 = 0.32897917, p-value = 0.56626081
bit place 6 if bit 5 = 1:
rf = 0.49618068, χ^2 = 2.55268905, p-value = 0.11010671
bit place 7 if bit 6 = 0:
rf = 0.49654239, χ^2 = 0.02467368, p-value = 0.87518293
bit place 7 if bit 6 = 1:
rf = 0.49641001, χ^2 = 0.46716187, p-value = 0.49429575
bit place 8 if bit 7 = 0:
rf = 0.49671589, χ^2 = 0.29097282, p-value = 0.58959780
bit place 8 if bit 7 = 1:
rf = 0.49737840, χ^2 = 10.08937992, p-value = 0.00149126
bit place 9 if bit 8 = 0:
rf = 0.49684676, χ^2 = 1.13241808, p-value = 0.28726015
bit place 9 if bit 8 = 1:
rf = 0.49697059, χ^2 = 2.40795572, p-value = 0.12071992
bit place 10 if bit 9 = 0:
rf = 0.49708242, χ^2 = 4.03946674, p-value = 0.04444786
bit place 10 if bit 9 = 1:
rf = 0.49641307, χ^2 = 0.45117883, p-value = 0.50177568