

Fractiles of the *Chisquare*(*n*) Distribution

<i>n</i>	$\alpha = 0.005$	$\alpha = 0.010$	$\alpha = 0.025$	$\alpha = 0.050$	$\alpha = 0.950$	$\alpha = 0.975$	$\alpha = 0.990$	$\alpha = 0.995$
1	0.00004	0.00016	0.00098	0.00393	3.841	5.024	6.635	7.879
2	0.01003	0.02010	0.05064	0.10259	5.991	7.378	9.210	10.597
3	0.07172	0.11483	0.21580	0.35185	7.815	9.348	11.345	12.838
4	0.20699	0.29711	0.48442	0.71072	9.488	11.143	13.277	14.860
5	0.41174	0.55430	0.83121	1.14548	11.070	12.833	15.086	16.750
6	0.67573	0.87209	1.23734	1.63538	12.592	14.449	16.812	18.548
7	0.98926	1.23904	1.68987	2.16735	14.067	16.013	18.475	20.278
8	1.34441	1.64650	2.17973	2.73264	15.507	17.535	20.090	21.955
9	1.73493	2.08790	2.70039	3.32511	16.919	19.023	21.666	23.589
10	2.15586	2.55821	3.24697	3.94030	18.307	20.483	23.209	25.188
15	4.60092	5.22935	6.26214	7.26094	24.996	27.488	30.578	32.801
20	7.43384	8.26040	9.59078	10.85081	31.410	34.170	37.566	39.997
25	10.51965	11.52398	13.11972	14.61141	37.652	40.646	44.314	46.928
30	13.78672	14.95346	16.79077	18.49266	43.773	46.979	50.892	53.672
35	17.19182	18.50893	20.56938	22.46502	49.802	53.203	57.342	60.275
40	20.70651	22.16426	24.43304	26.50930	55.758	59.342	63.691	66.766
45	24.31104	25.90127	28.36615	30.61226	61.656	65.410	69.957	73.166
50	27.99075	29.70668	32.35736	34.76425	67.505	71.420	76.154	79.490

Fractiles of the *Student*(*n*) Distribution

<i>n</i>	$\alpha = 0.005$	$\alpha = 0.010$	$\alpha = 0.025$	$\alpha = 0.050$	$\alpha = 0.950$	$\alpha = 0.975$	$\alpha = 0.990$	$\alpha = 0.995$
1	-63.657	-31.821	-12.706	-6.314	6.314	12.706	31.821	63.657
2	-9.925	-6.965	-4.303	-2.920	2.920	4.303	6.965	9.925
3	-5.841	-4.541	-3.182	-2.353	2.353	3.182	4.541	5.841
4	-4.604	-3.747	-2.776	-2.132	2.132	2.776	3.747	4.604
5	-4.032	-3.365	-2.571	-2.015	2.015	2.571	3.365	4.032
6	-3.707	-3.143	-2.447	-1.943	1.943	2.447	3.143	3.707
7	-3.499	-2.998	-2.365	-1.895	1.895	2.365	2.998	3.499
8	-3.355	-2.896	-2.306	-1.860	1.860	2.306	2.896	3.355
9	-3.250	-2.821	-2.262	-1.833	1.833	2.262	2.821	3.250
10	-3.169	-2.764	-2.228	-1.812	1.812	2.228	2.764	3.169
15	-2.947	-2.602	-2.131	-1.753	1.753	2.131	2.602	2.947
20	-2.845	-2.528	-2.086	-1.725	1.725	2.086	2.528	2.845
25	-2.787	-2.485	-2.060	-1.708	1.708	2.060	2.485	2.787
30	-2.750	-2.457	-2.042	-1.697	1.697	2.042	2.457	2.750
35	-2.724	-2.438	-2.030	-1.690	1.690	2.030	2.438	2.724
40	-2.704	-2.423	-2.021	-1.684	1.684	2.021	2.423	2.704
45	-2.690	-2.412	-2.014	-1.679	1.679	2.014	2.412	2.690
50	-2.678	-2.403	-2.009	-1.676	1.676	2.009	2.403	2.678
∞	-2.576	-2.326	-1.960	-1.645	1.645	1.960	2.326	2.576

Code

Discrete-event simulations

<i>Program</i>	<i>Section</i>	<i>Description</i>
ssq1	1.2	Trace-driven simulation of a single-server service node
ssq2	3.1	Simulation of a single-server service node with randomly generated inputs
ssq3	5.1	Next-event simulation of a single-server service node
ssq4	7.3	Next-event simulation of a single-server service node with <i>Erlang</i> service times
sis1	1.3	Trace-driven simulation of a simple inventory system
sis2	3.1	Simulation of a simple inventory system with randomly generated inputs
sis3	5.2	Next-event simulation of a simple inventory system
sis4	6.3	Next-event simulation of a simple inventory system with <i>Geometric</i> demands
msg	5.2	Next-event simulation of a multiple-server service node
ssms	3.3	Simulation of a single-server machine shop
ttr	5.3	Next-event simulation of a think-type-receive timesharing system

Monte Carlo simulations

<i>Program</i>	<i>Section</i>	<i>Description</i>
buffon	2.3	Estimates π for the Buffon needle problem
craps	2.4	Estimates the probability of winning at craps
det	2.4	Estimates the probability of a positive determinant
galileo	2.3	Estimates probabilities for the sum-of-three-dice experiment
hat	2.4	Estimates the probability of returning hats correctly
san	2.4	Estimates the mean time to complete a stochastic activity network

Libraries

<i>Program</i>	<i>Section</i>	<i>Description</i>
rng	2.2	Single-stream Lehmer random-number generator
rngs	3.2	Multiple-stream Lehmer random-number generator
rvgs	App. E	Random-variate generation for various stochastic models
rvms	App. D	pdf/cdf/idf computation for various stochastic models

Utilities

<i>Program</i>	<i>Section</i>	<i>Description</i>
acs	4.4	Calculates sample autocorrelation statistics from time-series data
bvs	4.4	Calculates bivariate statistics (e.g., sample mean, sample correlation)
cdh	4.3	Calculates cell heights for continuous-data histograms
ddh	4.2	Calculates cell heights for discrete-data histograms
estimate	8.1	Computes a confidence interval estimate for a univariate data set
sieve	App. B	Executes the sieve of Eratosthenes to find primes
uvs	4.1	Calculates univariate statistics (e.g., sample mean, sample standard deviation)