Statistical Tables

Table 27: Distribution function of the standard normal distribution

u	0	1	2	3	4	5	6	7	8	9
0,0	0,5000	0,5040	0,5080	0,5120	0,5160	0,5199	0,5239	0,5279	0,5319	0,5359
0,1	0,5398	0,5438	0,5478	0,5517	0,5557	0,5596	0,5636	0,5675	0,5714	0,5754
0,2	0,5793	0,5832	0,5871	0,5910	0,5948	0,5987	0,6026	0,6064	0,6103	0,6141
0,3	0,6179	0,6217	0,6255	0,6293	0,6331	0,6368	0,6406	0,6443	0,6470	0,6517
0,4	0,6554	0,6591	0,6628	0,6664	0,6700	0,6736	0,6772	0,6808	0,6844	0,6879
0,5	0,6915	0,6950	0,6985	0,7019	0,7054	0,7088	0,7123	0,7157	0,7190	0,7224
0,6	0,7258	0,7291	0,7324	0,7357	0,7389	0,7422	0,7454	0,7486	0,7518	0,7549
0,7	0,7580	0,7612	0,7642	0,7673	0,7704	0,7734	0,7764	0,7794	0,7823	0,7852
0,8	0,7881	0,7910	0,7939	0,7967	0,7996	0,8023	0,8051	0,8079	0,8106	0,8133
0,9	0,8159	0,8186	0,8212	0,8238	0,8264	0,8289	0,8315	0,8340	0,8365	0,8389
1,0	0,8413	0,8438	0,8461	0,8485	0,8508	0,8531	0,8554	0,8577	0,8598	0,8621
1,1	0,8643	0,8665	0,8686	0,8708	0,8729	0,8749	0,8770	0,8790	0,8810	0,8830
1,2	0,8849	0,8869	0,8888	0,8907	0,8925	0,8944	0,8962	0,8980	0,8997	0,9015
1,3	0,9032	0,9049	0,9066	0,9082	0,9099	0,9115	0,9131	0,9147	0,9162	0,9177
1,4	0,9192	0,9207	0,9222	0,9236	0,9251	0,9265	0,9279	0,9292	0,9306	0,9319
1,5	0,9332	0,9345	0,9357	0,9370	0,9382	0,9394	0,9406	0,9418	0,9430	0,9441
1,6	0,9452	0,9463	0,9474	0,9485	0,9495	0,9505	0,9515	0,9525	0,9535	0,9545
1,7	0,9554	0,9564	0,9573	0,9582	0,9591	0,9599	0,9608	0,9616	0,9625	0,9633
1,8	0,9641	0,9649	0,9656	0,9664	0,9671	0,9678	0,9686	0,9693	0,9700	0,9706
1,9	0,9713	0,9719	0,9726	0,9732	0,9738	0,9744	0,9750	0,9756	0,9762	0,9767
2,0	0,9773	0,9778	0,9783	0,9788	0,9793	0,9798	0,9803	0,9808	0,9812	0,9817
2,1	0,9821	0,9826	0,9830	0,9834	0,9838	0,9842	0,9846	0,9850	0,9854	0,9857
2,2	0,9861	0,9865	0,9868	0,9871	0,9875	0,9878	0,9881	0,9884	0,9887	0,9890
2,3	0,9893	0,9896	0,9898	0,9901	0,9904	0,9906	0,9909	0,9911	0,9913	0,9916
2,4	0,9918	0,9920	0,9922	0,9925	0,9927	0,9929	0,9931	0,9932	0,9934	0,9936
2,5	0,9938	0,9940	0,9941	0,9943	0,9945	0,9946	0,9948	0,9949	0,9951	0,9952
2,6	0,9953	0,9955	0,9956	0,9957	0,9959	0,9960	0,9961	0,9962	0,9963	0,9964
2,7	0,9965	0,9966	0,9967	0,9968	0,9969	0,9970	0,9971	0,9972	0,9973	0,9974
2,8	0,9974	0,9975	0,9976	0,9977	0,9977	0,9978	0,9979	0,9979	0,9980	0,9981
2,9	0,9981	0,9982	0,9983	0,9983	0,9984	0,9984	0,9985	0,9985	0,9986	0,9986
3,0	0,9987	0,9987	0,9987	0,9988	0,9988	0,9989	0,9989	0,9989	0,9990	0,9990
3,1	0,9990	0,9991	0,9991	0,9991	0,9992	0,9992	0,9992	0,9992	0,9993	0,9993
3,2	0,9993	0,9993	0,9994	0,9994	0,9994	0,9994	0,9994	0,9995	0,9995	0,9995
3,3	0,9995	0,9995	0,9996	0,9996	0,9996	0,9996	0,9996	0,9996	0,9996	0,9997
3,4	0,9997	0,9997	0,9997	0,9997	0,9997	0,9997	0,9997	0,9997	0,9998	0,9998
3,5	0,9998	0,9998	0,9998	0,9998	0,9998	0,9998	0,9998	0,9998	0,9998	0,9998
3,6	0,9998	0,9999	0,9999	0,9999	0,9999	0,9999	0,9999	0,9999	0,9999	0,9999
3,7	0,9999	0,9999	0,9999	0,9999	0,9999	0,9999	0,9999	0,9999	0,9999	0,9999
3,8	0,9999	0,9999	0,9999	0,9999	0,9999	0,9999	0,9999	1,0000	1,0000	1,0000
3,9	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000	1,0000

Table 28: Quantiles of the standard normal distribution u_α

α	u_α	α	u_α	α	u_α	α	u_α
0,500	0,00000	0,850	1,03643	0,930	1,47579	0,965	1,81191
0,510	0,02507	0,860	1,08032	0,931	1,48328	0,966	1,82501
0,520	0,05015	0,870	1,12639	0,932	1,49085	0,967	1,83842
0,530	0,07527	0,880	1,17499	0,933	1,49851	0,968	1,85218
0,540	0,10043	0,890	1,22653	0,934	1,50626	0,969	1,86630
0,550	0,12566	0,900	1,28155	0,935	1,51410	0,970	1,88079
0,560	0,15097	0,901	1,28727	0,936	1,52204	0,971	1,89570
0,570	0,17637	0,902	1,29303	0,937	1,53007	0,972	1,91104
0,580	0,20189	0,903	1,29884	0,938	1,53820	0,973	1,92684
0,590	0,22754	0,904	1,30469	0,939	1,54643	0,974	1,94313
0,600	0,25335	0,905	1,31058	0,940	1,55477	0,975	1,95996
0,610	0,27932	0,906	1,31652	0,941	1,56322	0,976	1,97737
0,620	0,30548	0,907	1,32251	0,942	1,57179	0,977	1,99539
0,630	0,33185	0,908	1,32854	0,943	1,58047	0,978	2,01409
0,640	0,35846	0,909	1,33462	0,944	1,58927	0,979	2,03352
0,650	0,38532	0,910	1,34076	0,945	1,59819	0,980	2,05375
0,660	0,41246	0,911	1,34694	0,946	1,60725	0,981	2,07485
0,670	0,43991	0,912	1,35317	0,947	1,61644	0,982	2,09693
0,680	0,46770	0,913	1,35946	0,948	1,62576	0,983	2,12007
0,690	0,49585	0,914	1,36581	0,949	1,63523	0,984	2,14441
0,700	0,52440	0,915	1,37220	0,950	1,64485	0,985	2,17009
0,710	0,55338	0,916	1,37866	0,951	1,65463	0,986	2,19729
0,720	0,58284	0,917	1,38517	0,952	1,66456	0,987	2,22621
0,730	0,61281	0,918	1,39174	0,953	1,67466	0,988	2,25713
0,740	0,64335	0,919	1,39838	0,954	1,68494	0,989	2,29037
0,750	0,67449	0,920	1,40507	0,955	1,69540	0,990	2,32635
0,760	0,70630	0,921	1,41183	0,956	1,70604	0,991	2,36562
0,770	0,73885	0,922	1,41865	0,957	1,71689	0,992	2,40892
0,780	0,77219	0,923	1,42554	0,958	1,72793	0,993	2,45726
0,790	0,80642	0,924	1,43250	0,959	1,73920	0,994	2,51214
0,800	0,84162	0,925	1,43953	0,960	1,75069	0,995	2,57583
0,810	0,87790	0,926	1,44663	0,961	1,76241	0,996	2,65207
0,820	0,91537	0,927	1,45381	0,962	1,77438	0,997	2,74778
0,830	0,95417	0,928	1,46106	0,963	1,78661	0,998	2,87816
0,840	0,99446	0,929	1,46838	0,964	1,79912	0,999	3,09023

Table 29: Quantiles of Student's t–distribution $t_\alpha(n)$

n	$\alpha = 0,900$	$\alpha = 0,950$	$\alpha = 0,975$	$\alpha = 0,990$	$\alpha = 0,995$	$\alpha = 0,999$
1	3,0777	6,3138	12,7062	31,8205	63,6567	318,3088
2	1,8856	2,9200	4,3027	6,9646	9,9248	22,3271
3	1,6377	2,3534	3,1824	4,5407	5,8409	10,2145
4	1,5332	2,1318	2,7764	3,7469	4,6041	7,1732
5	1,4759	2,0150	2,5706	3,3649	4,0321	5,8934
6	1,4398	1,9432	2,4469	3,1427	3,7074	5,2076
7	1,4149	1,8946	2,3646	2,9980	3,4995	4,7853
8	1,3968	1,8595	2,3060	2,8965	3,3554	4,5008
9	1,3830	1,8331	2,2622	2,8214	3,2498	4,2968
10	1,3722	1,8125	2,2281	2,7638	3,1693	4,1437
11	1,3634	1,7959	2,2010	2,7181	3,1058	4,0247
12	1,3562	1,7823	2,1788	2,6810	3,0545	3,9296
13	1,3502	1,7709	2,1604	2,6503	3,0123	3,8520
14	1,3450	1,7613	2,1448	2,6245	2,9768	3,7874
15	1,3406	1,7531	2,1314	2,6025	2,9467	3,7328
16	1,3368	1,7459	2,1199	2,5835	2,9208	3,6862
17	1,3334	1,7396	2,1098	2,5669	2,8982	3,6458
18	1,3304	1,7341	2,1009	2,5524	2,8784	3,6105
19	1,3277	1,7291	2,0930	2,5395	2,8609	3,5794
20	1,3253	1,7247	2,0860	2,5280	2,8453	3,5518
21	1,3232	1,7207	2,0796	2,5176	2,8314	3,5272
22	1,3212	1,7171	2,0739	2,5083	2,8188	3,5050
23	1,3195	1,7139	2,0687	2,4999	2,8073	3,4850
24	1,3178	1,7109	2,0639	2,4922	2,7969	3,4668
25	1,3163	1,7081	2,0595	2,4851	2,7874	3,4502
26	1,3150	1,7056	2,0555	2,4786	2,7787	3,4350
27	1,3137	1,7033	2,0518	2,4727	2,7707	3,4210
28	1,3125	1,7011	2,0484	2,4671	2,7633	3,4082
29	1,3114	1,6991	2,0452	2,4620	2,7564	3,3962
30	1,3104	1,6973	2,0423	2,4573	2,7500	3,3852
>30	1,2816	1,6449	1,9600	2,3263	2,5758	3,0000

Table 30: Quantiles of the χ^2–distribution $\chi^2(n)$

α / n	0,005	0,010	0,025	0,050	0,100	0,900	0,950	0,975	0,990	0,995
1	0,00	0,00	0,00	0,00	0,00	2,71	3,84	5,02	6,64	7,88
2	0,01	0,02	0,05	0,10	0,21	4,61	5,99	7,38	9,21	10,60
3	0,07	0,11	0,22	0,35	0,58	6,25	7,82	9,35	11,34	12,84
4	0,21	0,30	0,48	0,71	1,06	7,78	9,49	11,14	13,28	14,86
5	0,41	0,55	0,83	1,15	1,61	9,24	11,07	12,83	15,09	16,75
6	0,68	0,87	1,24	1,64	2,20	10,64	12,59	14,45	16,81	18,55
7	0,99	1,24	1,69	2,17	2,83	12,02	14,07	16,01	18,48	20,28
8	1,34	1,65	2,18	2,73	3,49	13,36	15,51	17,53	20,09	21,95
9	1,74	2,09	2,70	3,33	4,17	14,68	16,92	19,02	21,67	23,59
10	2,16	2,56	3,25	3,94	4,87	15,99	18,31	20,48	23,21	25,19
11	2,60	3,05	3,82	4,58	5,58	17,28	19,68	21,92	24,72	26,76
12	3,07	3,57	4,40	5,23	6,30	18,55	21,03	23,34	26,22	28,30
13	3,57	4,11	5,01	5,83	7,04	19,81	22,36	24,74	27,69	29,82
14	4,08	4,66	5,63	6,57	7,79	21,06	23,68	26,12	29,14	31,32
15	4,60	5,23	6,26	7,26	8,55	22,31	25,00	27,49	30,58	32,80
16	5,14	5,81	6,91	7,96	9,31	23,54	26,30	28,85	32,00	34,27
17	5,70	6,41	7,56	8,67	10,09	24,77	27,59	30,19	33,41	35,72
18	6,27	7,02	8,23	9,39	10,86	25,99	28,87	31,53	34,81	37,16
19	6,84	7,63	8,91	10,12	11,65	27,20	30,14	32,85	36,19	38,58
20	7,43	8,26	9,59	10,82	12,44	28,41	31,41	34,17	37,57	40,00
21	8,03	8,90	10,28	11,59	13,24	29,62	32,67	35,48	38,93	41,40
22	8,64	9,54	10,98	12,34	14,04	30,81	33,92	36,78	40,29	42,80
23	9,26	10,20	11,69	13,09	14,85	32,01	35,17	38,08	41,64	44,18
24	9,89	10,86	12,40	13,85	15,66	33,20	36,42	39,36	42,98	45,56
25	10,52	11,52	13,12	14,61	16,47	34,38	37,65	40,65	44,31	46,93
26	11,16	12,20	13,84	15,38	17,29	35,56	38,89	41,92	45,64	48,29
27	11,81	12,88	14,57	16,15	18,11	36,74	40,11	43,19	46,96	49,65
28	12,46	13,56	15,31	16,93	18,94	37,92	41,34	44,46	48,28	50,99
29	13,12	14,26	16,05	17,71	19,77	39,09	42,56	45,72	49,59	52,34
30	13,79	14,95	16,79	18,49	20,60	40,26	43,77	46,98	50,89	53,67
31	14,46	15,66	17,54	19,28	21,43	41,42	44,99	48,23	52,19	55,00
32	15,13	16,36	18,29	20,07	22,27	42,59	46,19	49,48	53,49	56,33
33	15,82	17,07	19,05	20,87	23,11	43,75	47,40	50,73	54,78	57,65
34	16,50	17,79	19,81	21,66	23,95	44,90	48,60	51,97	56,06	58,96
35	17,19	18,51	20,57	22,47	24,80	46,06	49,80	53,20	57,34	60,28

Table 31: Quantiles of the χ^2–distribution $\chi^2(n)$

α / n	0,005	0,010	0,025	0,050	0,100	0,900	0,950	0,975	0,990	0,995
36	17,89	19,23	21,34	23,27	25,64	47,21	51,00	54,44	58,62	61,58
37	18,59	19,96	22,11	24,08	26,49	48,36	52,19	55,67	59,89	62,88
38	19,29	20,69	22,88	24,88	27,34	49,51	53,38	56,90	61,16	64,18
39	19,99	21,43	23,65	25,70	28,20	50,66	54,57	58,12	62,43	65,48
40	20,70	22,16	24,43	26,51	29,05	51,81	55,76	59,34	63,69	66,77
41	21,42	22,91	25,22	27,33	29,91	52,95	56,94	60,56	64,95	68,05
42	22,14	23,65	26,00	28,14	30,77	54,09	58,12	61,78	66,21	69,34
43	22,86	24,40	26,79	28,97	31,63	55,23	59,30	63,00	67,46	70,62
44	23,58	25,15	27,58	29,79	32,49	56,37	60,48	64,20	68,71	71,89
45	24,31	25,90	28,37	30,61	33,35	57,51	61,66	65,41	69,96	73,17
46	25,04	26,66	29,16	31,44	34,26	58,64	62,83	66,62	71,20	74,44
47	25,78	27,42	29,96	32,27	35,08	59,77	64,00	67,82	72,44	75,70
48	26,51	28,18	30,76	33,10	35,95	60,91	65,17	69,02	73,68	76,97
49	27,25	28,94	31,56	33,93	36,82	62,04	66,34	70,22	74,92	78,23
50	27,99	29,71	32,36	34,76	37,69	63,17	67,51	71,42	76,15	79,49
55	31,74	33,57	36,40	38,96	42,06	68,80	73,31	77,38	82,29	85,75
60	35,53	37,49	40,48	43,19	46,46	74,40	79,08	83,30	88,38	91,95
65	39,38	41,44	44,60	47,45	50,88	79,97	84,82	89,18	94,42	98,11
70	43,28	45,44	48,76	51,74	55,33	85,53	90,53	95,02	100,43	104,21
75	47,21	49,48	52,94	56,05	59,80	91,06	96,22	100,84	106,39	110,29
80	51,17	53,54	57,15	60,39	64,28	96,58	101,88	106,63	112,33	116,32
85	55,17	57,63	61,39	64,75	68,78	102,08	107,52	112,39	118,24	122,32
90	59,20	61,75	65,65	69,13	73,29	107,57	113,15	118,14	124,12	128,30
95	63,25	65,90	69,93	73,52	77,82	113,04	118,75	123,86	129,97	134,25
100	67,33	70,07	74,22	77,93	82,36	118,50	124,34	129,56	135,81	140,17

Table 32: Quantiles of the χ^2–distribution $\chi^2(n)$

α / n	0,005	0,010	0,025	0,050	0,100	0,900	0,950	0,975	0,990	0,995
105	71,43	74,25	78,54	82,35	86,91	123,95	129,92	135,25	141,62	146,07
110	75,55	78,46	82,87	86,79	91,47	129,39	135,48	140,92	147,41	151,95
115	79,69	82,68	87,21	91,24	96,04	134,81	141,03	146,57	153,19	157,81
120	83,85	86,92	91,57	95,71	100,62	140,23	146,57	152,21	158,96	163,65
125	88,03	91,18	95,95	100,18	105,21	145,64	152,09	157,84	164,69	169,47
130	92,22	95,45	100,33	104,66	109,81	151,05	157,61	163,45	170,42	175,28
135	96,43	99,74	104,73	109,16	114,42	156,44	163,12	169,06	176,14	181,07
140	100,65	104,03	109,14	113,66	119,03	161,83	168,61	174,65	181,84	186,85
145	104,89	108,35	113,56	118,17	123,65	167,21	174,10	180,23	187,53	192,61
150	109,14	112,67	117,98	122,69	128,28	172,58	179,58	185,80	193,21	198,36
160	117,68	121,35	126,87	131,76	137,55	183,31	190,52	196,92	204,53	209,82
170	126,26	130,06	135,79	140,86	146,84	194,02	201,42	208,00	215,81	221,24
180	134,88	138,82	144,74	149,97	156,15	204,70	212,30	219,04	227,06	232,62
190	143,55	147,61	153,72	159,11	165,49	215,37	223,16	230,06	238,27	243,96
200	152,24	156,43	162,73	168,28	174,84	226,02	233,99	241,06	249,45	255,26
300	240,66	245,97	253,91	260,88	269,07	331,79	341,40	349,87	359,91	366,84
400	330,90	337,16	346,48	354,64	364,21	436,65	447,63	457,31	468,72	476,61
500	422,30	429,39	439,94	449,15	459,93	540,93	553,13	563,85	576,49	585,21
600	514,53	522,37	534,02	544,18	556,06	644,80	658,09	669,77	683,52	692,98
700	607,38	615,91	628,58	639,61	652,50	748,36	762,66	775,21	789,97	800,13
800	700,72	709,90	723,51	735,36	749,19	851,67	866,91	880,28	895,98	906,79
900	794,47	804,25	818,76	831,37	846,07	954,78	970,90	985,03	1001,6	1013,0
1000	888,56	898,91	914,26	927,59	943,13	1057,7	1074,7	1089,5	1107,0	1118,9

Table 33: Quantiles of Fisher's F–distribution $F_{0,95}(k_1, k_2)$

k_1 / k_2	1	2	3	4	5	6	7
1	161,450	199,50	215,7074	224,5832	230,1619	233,986	236,7684
2	18,5128	19,000	19,1643	19,2468	19,2964	19,3295	19,3532
3	10,1280	9,5521	9,2766	9,1172	9,0135	8,9406	8,8867
4	7,7086	6,9443	6,5914	6,3882	6,2561	6,1631	6,0942
5	6,6079	5,7861	5,4095	5,1922	5,0503	4,9503	4,8759
6	5,9874	5,1433	4,7571	4,5337	4,3874	4,2839	4,2067
7	5,5914	4,7374	4,3468	4,1203	3,9715	3,8660	3,7870
8	5,3177	4,4590	4,0662	3,8379	3,6875	3,5806	3,5005
9	5,1174	4,2565	3,8625	3,6331	3,4817	3,3738	3,2927
10	4,9646	4,1028	3,7083	3,4780	3,3258	3,2172	3,1355
11	4,8443	3,9823	3,5874	3,3567	3,2039	3,0946	3,0123
12	4,7472	3,8853	3,4903	3,2592	3,1059	2,9961	2,9134
13	4,6672	3,8056	3,4105	3,1791	3,0254	2,9153	2,8321
14	4,6001	3,7389	3,3439	3,1122	2,9582	2,8477	2,7642
15	4,5431	3,6823	3,2874	3,0556	2,9013	2,7905	2,7066
16	4,4940	3,6337	3,2389	3,0069	2,8524	2,7413	2,6572
17	4,4513	3,5915	3,1968	2,9647	2,8100	2,6987	2,6143
18	4,4139	3,5546	3,1599	2,9277	2,7729	2,6613	2,5767
19	4,3807	3,5219	3,1274	2,8951	2,7401	2,6283	2,5435
20	4,3512	3,4928	3,0984	2,8661	2,7109	2,5990	2,5140
21	4,3248	3,4668	3,0725	2,8401	2,6848	2,5727	2,4876
22	4,3009	3,4434	3,0491	2,8167	2,6613	2,5491	2,4638
23	4,2793	3,4221	3,0280	2,7955	2,6400	2,5277	2,4422
24	4,2597	3,4028	3,0088	2,7763	2,6207	2,5082	2,4226
25	4,2417	3,3852	2,9912	2,7587	2,6030	2,4904	2,4047
26	4,2252	3,3690	2,9752	2,7426	2,5868	2,4741	2,3883
27	4,2100	3,3541	2,9604	2,7278	2,5719	2,4591	2,3732
28	4,1960	3,3404	2,9467	2,7141	2,5581	2,4453	2,3593
29	4,1830	3,3277	2,9340	2,7014	2,5454	2,4324	2,3463
30	4,1709	3,3158	2,9223	2,6896	2,5336	2,4205	2,3343
40	4,0847	3,2317	2,8387	2,6060	2,4495	2,3359	2,2490
60	4,0012	3,1504	2,7581	2,5252	2,3683	2,2541	2,1665
80	3,9604	3,1108	2,7188	2,4859	2,3287	2,2142	2,1263
120	3,9201	3,0718	2,6802	2,4472	2,2899	2,1750	2,0868
> 120	3,8415	2,9957	2,6049	2,3719	2,2141	2,0986	2,0096

Table 34: Quantiles of Fisher's F–distribution $F_{0,95}(k_1, k_2)$

k_1 / k_2	8	9	10	11	12	13	14
1	238,8827	240,5433	241,8818	242,9835	243,906	244,6899	245,364
2	19,3710	19,3848	19,3959	19,4050	19,4125	19,4189	19,4244
3	8,8452	8,8123	8,7855	8,7633	8,7446	8,7287	8,7149
4	6,0410	5,9988	5,9644	5,9358	5,9117	5,8911	5,8733
5	4,8183	4,7725	4,7351	4,7040	4,6777	4,6552	4,6358
6	4,1468	4,0990	4,0600	4,0274	3,9999	3,9764	3,9559
7	3,7257	3,6767	3,6365	3,6030	3,5747	3,5503	3,5292
8	3,4381	3,3881	3,3472	3,3130	3,2839	3,2590	3,2374
9	3,2296	3,1789	3,1373	3,1025	3,0729	3,0475	3,0255
10	3,0717	3,0204	2,9782	2,9430	2,9130	2,8872	2,8647
11	2,9480	2,8962	2,8536	2,8179	2,7876	2,7614	2,7386
12	2,8486	2,7964	2,7534	2,7173	2,6866	2,6602	2,6371
13	2,7669	2,7144	2,6710	2,6347	2,6037	2,5769	2,5536
14	2,6987	2,6458	2,6022	2,5655	2,5342	2,5073	2,4837
15	2,6408	2,5876	2,5437	2,5068	2,4753	2,4481	2,4244
16	2,5911	2,5377	2,4935	2,4564	2,4247	2,3973	2,3733
17	2,5480	2,4943	2,4499	2,4126	2,3807	2,3531	2,3290
18	2,5102	2,4563	2,4117	2,3742	2,3421	2,3143	2,2900
19	2,4768	2,4227	2,3779	2,3402	2,3080	2,2800	2,2556
20	2,4471	2,3928	2,3479	2,3100	2,2776	2,2495	2,2250
21	2,4205	2,3660	2,3210	2,2829	2,2504	2,2222	2,1975
22	2,3965	2,3419	2,2967	2,2585	2,2258	2,1975	2,1727
23	2,3748	2,3201	2,2747	2,2364	2,2036	2,1752	2,1502
24	2,3551	2,3002	2,2547	2,2163	2,1834	2,1548	2,1298
25	2,3371	2,2821	2,2365	2,1979	2,1649	2,1362	2,1111
26	2,3205	2,2655	2,2197	2,1811	2,1479	2,1192	2,0939
27	2,3053	2,2501	2,2043	2,1655	2,1323	2,1035	2,0781
28	2,2913	2,2360	2,1900	2,1512	2,1179	2,0889	2,0635
29	2,2783	2,2229	2,1768	2,1379	2,1045	2,0755	2,0500
30	2,2662	2,2107	2,1646	2,1256	2,0921	2,0630	2,0374
40	2,1802	2,1240	2,0772	2,0376	2,0035	1,9738	1,9476
60	2,0970	2,0401	1,9926	1,9522	1,9174	1,8870	1,8602
80	2,0564	1,9991	1,9512	1,9105	1,8753	1,8445	1,8174
120	2,0164	1,9588	1,9105	1,8693	1,8337	1,8026	1,7750
> 120	1,9384	1,8799	1,8307	1,7886	1,7522	1,7202	1,6918

Table 35: Quantiles of Fisher's F–distribution $F_{0,95}(k_1, k_2)$

k_1 / k_2	15	16	17	18	19	20	25
1	245,9499	246,4639	246,9184	247,3232	247,6861	248,0131	249,2601
2	19,4291	19,4333	19,437	19,4402	19,4431	19,4458	19,4558
3	8,7029	8,6923	8,6829	8,6745	8,6670	8,6602	8,6341
4	5,8578	5,8441	5,8320	5,8211	5,8114	5,8025	5,7687
5	4,6188	4,6038	4,5904	4,5785	4,5678	4,5581	4,5209
6	3,9381	3,9223	3,9083	3,8957	3,8844	3,8742	3,8348
7	3,5107	3,4944	3,4799	3,4669	3,4551	3,4445	3,4036
8	3,2184	3,2016	3,1867	3,1733	3,1613	3,1503	3,1081
9	3,0061	2,9890	2,9737	2,9600	2,9477	2,9365	2,8932
10	2,8450	2,8276	2,8120	2,7980	2,7854	2,7740	2,7298
11	2,7186	2,7009	2,6851	2,6709	2,6581	2,6464	2,6014
12	2,6169	2,5989	2,5828	2,5684	2,5554	2,5436	2,4977
13	2,5331	2,5149	2,4987	2,4841	2,4709	2,4589	2,4123
14	2,4630	2,4446	2,4282	2,4134	2,4000	2,3879	2,3407
15	2,4034	2,3849	2,3683	2,3533	2,3398	2,3275	2,2797
16	2,3522	2,3335	2,3167	2,3016	2,2880	2,2756	2,2272
17	2,3077	2,2888	2,2719	2,2567	2,2429	2,2304	2,1815
18	2,2686	2,2496	2,2325	2,2172	2,2033	2,1906	2,1413
19	2,2341	2,2149	2,1977	2,1823	2,1683	2,1555	2,1057
20	2,2033	2,1840	2,1667	2,1511	2,1370	2,1242	2,0739
21	2,1757	2,1563	2,1389	2,1232	2,1090	2,0960	2,0454
22	2,1508	2,1313	2,1138	2,0980	2,0837	2,0707	2,0196
23	2,1282	2,1086	2,0910	2,0751	2,0608	2,0476	1,9963
24	2,1077	2,0880	2,0703	2,0543	2,0399	2,0267	1,9750
25	2,0889	2,0691	2,0513	2,0353	2,0207	2,0075	1,9554
26	2,0716	2,0518	2,0339	2,0178	2,0032	1,9898	1,9375
27	2,0558	2,0358	2,0179	2,0017	1,9870	1,9736	1,9210
28	2,0411	2,0210	2,0030	1,9868	1,9720	1,9586	1,9057
29	2,0275	2,0073	1,9893	1,9730	1,9581	1,9446	1,8915
30	2,0148	1,9946	1,9765	1,9601	1,9452	1,9317	1,8782
40	1,9245	1,9037	1,8851	1,8682	1,8529	1,8389	1,7835
60	1,8364	1,8151	1,7959	1,7784	1,7625	1,7480	1,6902
80	1,7932	1,7716	1,7520	1,7342	1,7180	1,7032	1,6440
120	1,7505	1,7285	1,7085	1,6904	1,6739	1,6587	1,5980
> 120	1,6640	1,6435	1,6228	1,6038	1,5865	1,5705	1,5061

Table 36: Quantiles of Fisher's F–distribution $F_{0,95}(k_1, k_2)$

k_1 / k_2	30	40	60	80	120	>120
1	250,0952	251,1432	252,1957	252,7237	253,2529	254,31
2	19,4624	19,4707	19,4791	19,4832	19,4874	19,496
3	8,6166	8,5944	8,5720	8,5607	8,5494	8,5264
4	5,7459	5,7170	5,6877	5,6730	5,6581	5,6281
5	4,4957	4,4638	4,4314	4,4150	4,3985	4,3650
6	3,8082	3,7743	3,7398	3,7223	3,7047	3,6689
7	3,3758	3,3404	3,3043	3,2860	3,2674	3,2298
8	3,0794	3,0428	3,0053	2,9862	2,9669	2,9276
9	2,8637	2,8259	2,7872	2,7675	2,7475	2,7067
10	2,6996	2,6609	2,6211	2,6008	2,5801	2,5379
11	2,5705	2,5309	2,4901	2,4692	2,4480	2,4045
12	2,4663	2,4259	2,3842	2,3628	2,3410	2,2962
13	2,3803	2,3392	2,2966	2,2747	2,2524	2,2064
14	2,3082	2,2664	2,2229	2,2006	2,1778	2,1307
15	2,2468	2,2043	2,1601	2,1373	2,1141	2,0658
16	2,1938	2,1507	2,1058	2,0826	2,0589	2,0096
17	2,1477	2,1040	2,0584	2,0348	2,0107	1,9604
18	2,1071	2,0629	2,0166	1,9927	1,9681	1,9168
19	2,0712	2,0264	1,9795	1,9552	1,9302	1,8780
20	2,0391	1,9938	1,9464	1,9217	1,8963	1,8432
21	2,0102	1,9645	1,9165	1,8915	1,8657	1,8117
22	1,9842	1,9380	1,8894	1,8641	1,8380	1,7831
23	1,9605	1,9139	1,8648	1,8392	1,8128	1,7570
24	1,9390	1,8920	1,8424	1,8164	1,7896	1,7330
25	1,9192	1,8718	1,8217	1,7955	1,7684	1,7110
26	1,9010	1,8533	1,8027	1,7762	1,7488	1,6906
27	1,8842	1,8361	1,7851	1,7584	1,7306	1,6717
28	1,8687	1,8203	1,7689	1,7418	1,7138	1,6541
29	1,8543	1,8055	1,7537	1,7264	1,6981	1,6376
30	1,8409	1,7918	1,7396	1,7121	1,6835	1,6223
40	1,7444	1,6928	1,6373	1,6077	1,5766	1,5089
60	1,6491	1,5943	1,5343	1,5019	1,4673	1,3893
80	1,6017	1,5449	1,4821	1,4477	1,4107	1,3247
120	1,5543	1,4952	1,4290	1,3922	1,3519	1,2539
> 120	1,4591	1,3940	1,3180	1,2735	1,2214	1,0000

Table 37: Quantiles of Fisher's F–distribution $F_{0,975}(k_1, k_2)$

k_1 / k_2	1	2	3	4	5	6	7
1	647,789	799,500	864,163	899,5833	921,8479	937,1111	948,2169
2	38,5063	39,0000	39,1655	39,2484	39,2982	39,3315	39,3552
3	17,4434	16,0441	15,4392	15,1010	14,8848	14,7347	14,6244
4	12,2179	10,6491	9,9792	9,6045	9,3645	9,1973	9,0741
5	10,0070	8,4336	7,7636	7,3879	7,1464	6,9777	6,8531
6	8,8131	7,2599	6,5988	6,2272	5,9876	5,8198	5,6955
7	8,0727	6,5415	5,8898	5,5226	5,2852	5,1186	4,9949
8	7,5709	6,0595	5,4160	5,0526	4,8173	4,6517	4,5286
9	7,2093	5,7147	5,0781	4,7181	4,4844	4,3197	4,1970
10	6,9367	5,4564	4,8256	4,4683	4,2361	4,0721	3,9498
11	6,7241	5,2559	4,6300	4,2751	4,0440	3,8807	3,7586
12	6,5538	5,0959	4,4742	4,1212	3,8911	3,7283	3,6065
13	6,4143	4,9653	4,3472	3,9959	3,7667	3,6043	3,4827
14	6,2979	4,8567	4,2417	3,8919	3,6634	3,5014	3,3799
15	6,1995	4,7650	4,1528	3,8043	3,5764	3,4147	3,2934
16	6,1151	4,6867	4,0768	3,7294	3,5021	3,3406	3,2194
17	6,0420	4,6189	4,0112	3,6648	3,4379	3,2767	3,1556
18	5,9781	4,5597	3,9539	3,6083	3,3820	3,2209	3,0999
19	5,9216	4,5075	3,9034	3,5587	3,3327	3,1718	3,0509
20	5,8715	4,4613	3,8587	3,5147	3,2891	3,1283	3,0074
21	5,8266	4,4199	3,8188	3,4754	3,2501	3,0895	2,9686
22	5,7863	4,3828	3,7829	3,4401	3,2151	3,0546	2,9338
23	5,7498	4,3492	3,7505	3,4083	3,1835	3,0232	2,9023
24	5,7166	4,3187	3,7211	3,3794	3,1548	2,9946	2,8738
25	5,6864	4,2909	3,6943	3,3530	3,1287	2,9685	2,8478
26	5,6586	4,2655	3,6697	3,3289	3,1048	2,9447	2,8240
27	5,6331	4,2421	3,6472	3,3067	3,0828	2,9228	2,8021
28	5,6096	4,2205	3,6264	3,2863	3,0626	2,9027	2,7820
29	5,5878	4,2006	3,6072	3,2674	3,0438	2,8840	2,7633
30	5,5675	4,1821	3,5894	3,2499	3,0265	2,8667	2,7460
40	5,4239	4,0510	3,4633	3,1261	2,9037	2,7444	2,6238
60	5,2856	3,9253	3,3425	3,0077	2,7863	2,6274	2,5068
80	5,2184	3,8643	3,2841	2,9504	2,7295	2,5708	2,4502
120	5,1523	3,8046	3,2269	2,8943	2,6740	2,5154	2,3948
> 120	5,0239	3,6889	3,1161	2,7858	2,5665	2,4082	2,2875

Table 38: Quantiles of Fisher's F–distribution $F_{0,975}(k_1, k_2)$

k_1 / k_2	8	9	10	11	12	13	14
1	956,6562	963,2846	968,6274	973,0252	976,708	979,8368	982,5278
2	39,3730	39,3869	39,3980	39,4071	39,4146	39,4210	39,4265
3	14,5399	14,4731	14,4189	14,3742	14,3366	14,3045	14,2768
4	8,9796	8,9047	8,8439	8,7935	8,7512	8,7150	8,6838
5	6,7572	6,6811	6,6192	6,5678	6,5245	6,4876	6,4556
6	5,5996	5,5234	5,4613	5,4098	5,3662	5,3290	5,2968
7	4,8993	4,8232	4,7611	4,7095	4,6658	4,6285	4,5961
8	4,4333	4,3572	4,2951	4,2434	4,1997	4,1622	4,1297
9	4,1020	4,0260	3,9639	3,9121	3,8682	3,8306	3,7980
10	3,8549	3,7790	3,7168	3,6649	3,6209	3,5832	3,5504
11	3,6638	3,5879	3,5257	3,4737	3,4296	3,3917	3,3588
12	3,5118	3,4358	3,3736	3,3215	3,2773	3,2393	3,2062
13	3,3880	3,3120	3,2497	3,1975	3,1532	3,1150	3,0819
14	3,2853	3,2093	3,1469	3,0946	3,0502	3,0119	2,9786
15	3,1987	3,1227	3,0602	3,0078	2,9633	2,9249	2,8915
16	3,1248	3,0488	2,9862	2,9337	2,8890	2,8506	2,8170
17	3,0610	2,9849	2,9222	2,8696	2,8249	2,7863	2,7526
18	3,0053	2,9291	2,8664	2,8137	2,7689	2,7302	2,6964
19	2,9563	2,8801	2,8172	2,7645	2,7196	2,6808	2,6469
20	2,9128	2,8365	2,7737	2,7209	2,6758	2,6369	2,6030
21	2,8740	2,7977	2,7348	2,6819	2,6368	2,5978	2,5638
22	2,8392	2,7628	2,6998	2,6469	2,6017	2,5626	2,5285
23	2,8077	2,7313	2,6682	2,6152	2,5699	2,5308	2,4966
24	2,7791	2,7027	2,6396	2,5865	2,5411	2,5019	2,4677
25	2,7531	2,6766	2,6135	2,5603	2,5149	2,4756	2,4413
26	2,7293	2,6528	2,5896	2,5363	2,4908	2,4515	2,4171
27	2,7074	2,6309	2,5676	2,5143	2,4688	2,4293	2,3949
28	2,6872	2,6106	2,5473	2,4940	2,4484	2,4089	2,3743
29	2,6686	2,5919	2,5286	2,4752	2,4295	2,3900	2,3554
30	2,6513	2,5746	2,5112	2,4577	2,4120	2,3724	2,3378
40	2,5289	2,4519	2,3882	2,3343	2,2882	2,2481	2,2130
60	2,4117	2,3344	2,2702	2,2159	2,1692	2,1286	2,0929
80	2,3549	2,2775	2,2130	2,1584	2,1115	2,0706	2,0346
120	2,2994	2,2217	2,1570	2,1021	2,0548	2,0136	1,9773
> 120	2,1918	2,1136	2,0483	1,9927	1,9447	1,9027	1,8656

Table 39: Quantiles of Fisher's F–distribution $F_{0,975}(k_1, k_2)$

k_1 / k_2	15	16	17	18	19	20	25
1	984,8668	986,9187	988,7331	990,3490	991,7973	993,1028	998,0808
2	39,4313	39,4354	39,4391	39,4424	39,4453	39,4479	39,4579
3	14,2527	14,2315	14,2127	14,1960	14,1810	14,1674	14,1155
4	8,6565	8,6326	8,6113	8,5924	8,5753	8,5599	8,5010
5	6,4277	6,4032	6,3814	6,3619	6,3444	6,3286	6,2679
6	5,2687	5,2439	5,2218	5,2021	5,1844	5,1684	5,1069
7	4,5678	4,5428	4,5206	4,5008	4,4829	4,4667	4,4045
8	4,1012	4,0761	4,0538	4,0338	4,0158	3,9995	3,9367
9	3,7694	3,7441	3,7216	3,7015	3,6833	3,6669	3,6035
10	3,5217	3,4963	3,4737	3,4534	3,4351	3,4185	3,3546
11	3,3299	3,3044	3,2816	3,2612	3,2428	3,2261	3,1616
12	3,1772	3,1515	3,1286	3,1081	3,0896	3,0728	3,0077
13	3,0527	3,0269	3,0039	2,9832	2,9646	2,9477	2,8821
14	2,9493	2,9234	2,9003	2,8795	2,8607	2,8437	2,7777
15	2,8621	2,8360	2,8128	2,7919	2,7730	2,7559	2,6894
16	2,7875	2,7614	2,7380	2,7170	2,6980	2,6808	2,6138
17	2,7230	2,6968	2,6733	2,6522	2,6331	2,6158	2,5484
18	2,6667	2,6404	2,6168	2,5956	2,5764	2,5590	2,4912
19	2,6171	2,5907	2,5670	2,5457	2,5265	2,5089	2,4408
20	2,5731	2,5465	2,5228	2,5014	2,4821	2,4645	2,3959
21	2,5338	2,5071	2,4833	2,4618	2,4424	2,4247	2,3558
22	2,4984	2,4717	2,4478	2,4262	2,4067	2,3890	2,3198
23	2,4665	2,4396	2,4157	2,3940	2,3745	2,3567	2,2871
24	2,4374	2,4105	2,3865	2,3648	2,3452	2,3273	2,2574
25	2,4110	2,3840	2,3599	2,3381	2,3184	2,3005	2,2303
26	2,3867	2,3597	2,3355	2,3137	2,2939	2,2759	2,2054
27	2,3644	2,3373	2,3131	2,2912	2,2713	2,2533	2,1826
28	2,3438	2,3167	2,2924	2,2704	2,2505	2,2324	2,1615
29	2,3248	2,2976	2,2732	2,2512	2,2313	2,2131	2,1419
30	2,3072	2,2799	2,2554	2,2334	2,2134	2,1952	2,1237
40	2,1819	2,1542	2,1293	2,1068	2,0864	2,0677	1,9943
60	2,0613	2,0330	2,0076	1,9846	1,9636	1,9445	1,8687
80	2,0026	1,9741	1,9483	1,9250	1,9037	1,8843	1,8071
120	1,9450	1,9161	1,8900	1,8663	1,8447	1,8249	1,7462
> 120	1,8326	1,8028	1,7759	1,7515	1,7291	1,7085	1,6259

Table 40: Quantiles of Fisher's F–distribution $F_{0,975}(k_1, k_2)$

k_1 / k_2	30	40	60	80	120	>120
1	1001,414	1005,598	1009,800	1011,908	1014,020	1018,300
2	39,4646	39,4729	39,4812	39,4854	39,4896	39,4980
3	14,0805	14,0365	13,9921	13,9697	13,9473	13,9020
4	8,4613	8,4111	8,3604	8,3349	8,3092	8,2573
5	6,2269	6,1750	6,1225	6,0960	6,0693	6,0153
6	5,0652	5,0125	4,9589	4,9318	4,9044	4,8491
7	4,3624	4,3089	4,2544	4,2268	4,1989	4,1423
8	3,8940	3,8398	3,7844	3,7563	3,7279	3,6702
9	3,5604	3,5055	3,4493	3,4207	3,3918	3,3329
10	3,3110	3,2554	3,1984	3,1694	3,1399	3,0798
11	3,1176	3,0613	3,0035	2,9740	2,9441	2,8828
12	2,9633	2,9063	2,8478	2,8178	2,7874	2,7249
13	2,8372	2,7797	2,7204	2,6900	2,6590	2,5955
14	2,7324	2,6742	2,6142	2,5833	2,5519	2,4872
15	2,6437	2,5850	2,5242	2,4930	2,4611	2,3953
16	2,5678	2,5085	2,4471	2,4154	2,3831	2,3163
17	2,5020	2,4422	2,3801	2,3481	2,3153	2,2474
18	2,4445	2,3842	2,3214	2,2890	2,2558	2,1869
19	2,3937	2,3329	2,2696	2,2368	2,2032	2,1333
20	2,3486	2,2873	2,2234	2,1902	2,1562	2,0853
21	2,3082	2,2465	2,1819	2,1485	2,1141	2,0422
22	2,2718	2,2097	2,1446	2,1108	2,0760	2,0032
23	2,2389	2,1763	2,1107	2,0766	2,0415	1,9677
24	2,2090	2,1460	2,0799	2,0454	2,0099	1,9353
25	2,1816	2,1183	2,0516	2,0169	1,9811	1,9055
26	2,1565	2,0928	2,0257	1,9907	1,9545	1,8781
27	2,1334	2,0693	2,0018	1,9665	1,9299	1,8527
28	2,1121	2,0477	1,9797	1,9441	1,9072	1,8291
29	2,0923	2,0276	1,9591	1,9232	1,8861	1,8072
30	2,0739	2,0089	1,9400	1,9039	1,8664	1,7867
40	1,9429	1,8752	1,8028	1,7644	1,7242	1,6371
60	1,8152	1,7440	1,6668	1,6252	1,5810	1,4821
80	1,7523	1,6790	1,5987	1,5549	1,5079	1,3997
120	1,6899	1,6141	1,5299	1,4834	1,4327	1,3104
> 120	1,5660	1,4835	1,3883	1,3329	1,2684	1,0000

Table 41: Quantiles of Fisher's F–distribution $F_{0,995}(k_1, k_2)$

k_1 / k_2	1	2	3	4	5	6	7
1	16211	20000	21615	22500	23056	23438	23715
2	198,50	199,00	199,17	199,25	199,30	199,33	199,36
3	55,5520	49,7993	47,4672	46,1946	45,3916	44,8385	44,4341
4	31,3328	26,2843	24,2591	23,1545	22,4564	21,9746	21,6217
5	22,7848	18,3138	16,5298	15,5561	14,9396	14,5133	14,2004
6	18,6350	14,5441	12,9166	12,0275	11,4637	11,0730	10,7859
7	16,2356	12,4040	10,8824	10,0505	9,5221	9,1553	8,8854
8	14,6882	11,0424	9,5965	8,8051	8,3018	7,9520	7,6941
9	13,6136	10,1067	8,7171	7,9559	7,4712	7,1339	6,8849
10	12,8265	9,4270	8,0807	7,3428	6,8724	6,5446	6,3025
11	12,2263	8,9122	7,6004	6,8809	6,4217	6,1016	5,8648
12	11,7542	8,5096	7,2258	6,5211	6,0711	5,7570	5,5245
13	11,3735	8,1865	6,9258	6,2335	5,7910	5,4819	5,2529
14	11,0603	7,9216	6,6804	5,9984	5,5623	5,2574	5,0313
15	10,7980	7,7008	6,4760	5,8029	5,3721	5,0708	4,8473
16	10,5755	7,5138	6,3034	5,6378	5,2117	4,9134	4,6920
17	10,3842	7,3536	6,1556	5,4967	5,0746	4,7789	4,5594
18	10,2181	7,2148	6,0278	5,3746	4,9560	4,6627	4,4448
19	10,0725	7,0935	5,9161	5,2681	4,8526	4,5614	4,3448
20	9,9439	6,9865	5,8177	5,1743	4,7616	4,4721	4,2569
21	9,8295	6,8914	5,7304	5,0911	4,6809	4,3931	4,1789
22	9,7271	6,8064	5,6524	5,0168	4,6088	4,3225	4,1094
23	9,6348	6,7300	5,5823	4,9500	4,5441	4,2591	4,0469
24	9,5513	6,6609	5,5190	4,8898	4,4857	4,2019	3,9905
25	9,4753	6,5982	5,4615	4,8351	4,4327	4,1500	3,9394
26	9,4059	6,5409	5,4091	4,7852	4,3844	4,1027	3,8928
27	9,3423	6,4885	5,3611	4,7396	4,3402	4,0594	3,8501
28	9,2838	6,4403	5,3170	4,6977	4,2996	4,0197	3,8110
29	9,2297	6,3958	5,2764	4,6591	4,2622	3,9831	3,7749
30	9,1797	6,3547	5,2388	4,6234	4,2276	3,9492	3,7416
40	8,8279	6,0664	4,9758	4,3738	3,9860	3,7129	3,5088
60	8,4946	5,7950	4,7290	4,1399	3,7599	3,4918	3,2911
80	8,3346	5,6652	4,6113	4,0285	3,6524	3,3867	3,1876
120	8,1788	5,5393	4,4972	3,9207	3,5482	3,2849	3,0874
> 120	7,8795	5,2983	4,2794	3,7151	3,3499	3,0913	2,8968

Table 42: Quantiles of Fisher's F–distribution $F_{0,995}(k_1, k_2)$

k_1 / k_2	8	9	10	11	12	13	14
1	23925	24091	24225	24334	24426	24505	24572
2	199,38	199,39	199,40	199,41	199,42	199,43	199,43
3	44,1256	43,8824	43,6858	43,5236	43,3874	43,2715	43,1716
4	21,3520	21,1391	20,9667	20,8243	20,7047	20,6027	20,5148
5	13,9610	13,7716	13,6182	13,4912	13,3845	13,2934	13,2148
6	10,5658	10,3915	10,2500	10,1329	10,0343	9,9501	9,8774
7	8,6781	8,5138	8,3803	8,2697	8,1764	8,0967	8,0279
8	7,4959	7,3386	7,2106	7,1045	7,0149	6,9384	6,8721
9	6,6933	6,5411	6,4172	6,3142	6,2274	6,1530	6,0887
10	6,1159	5,9676	5,8467	5,7462	5,6613	5,5887	5,5257
11	5,6821	5,5368	5,4183	5,3197	5,2363	5,1649	5,1031
12	5,3451	5,2021	5,0855	4,9884	4,9062	4,8358	4,7748
13	5,0761	4,9351	4,8199	4,7240	4,6429	4,5733	4,5129
14	4,8566	4,7173	4,6034	4,5085	4,4281	4,3591	4,2993
15	4,6744	4,5364	4,4235	4,3295	4,2497	4,1813	4,1219
16	4,5207	4,3838	4,2719	4,1785	4,0994	4,0314	3,9723
17	4,3894	4,2535	4,1424	4,0496	3,9709	3,9033	3,8445
18	4,2759	4,1410	4,0305	3,9382	3,8599	3,7926	3,7341
19	4,1770	4,0428	3,9329	3,8410	3,7631	3,6961	3,6378
20	4,0900	3,9564	3,8470	3,7555	3,6779	3,6111	3,5530
21	4,0128	3,8799	3,7709	3,6798	3,6024	3,5358	3,4779
22	3,9440	3,8116	3,7030	3,6122	3,5350	3,4686	3,4108
23	3,8822	3,7502	3,6420	3,5515	3,4745	3,4083	3,3506
24	3,8264	3,6949	3,5870	3,4967	3,4199	3,3538	3,2962
25	3,7758	3,6447	3,5370	3,4470	3,3704	3,3044	3,2469
26	3,7297	3,5989	3,4916	3,4017	3,3252	3,2594	3,2020
27	3,6875	3,5571	3,4499	3,3602	3,2839	3,2182	3,1608
28	3,6487	3,5186	3,4117	3,3222	3,2460	3,1803	3,1231
29	3,6131	3,4832	3,3765	3,2871	3,2110	3,1454	3,0882
30	3,5801	3,4505	3,3440	3,2547	3,1787	3,1132	3,0560
40	3,3498	3,2220	3,1167	3,0284	2,9531	2,8880	2,8312
60	3,1344	3,0083	2,9042	2,8166	2,7419	2,6771	2,6205
80	3,0320	2,9066	2,8031	2,7159	2,6413	2,5767	2,5201
120	2,9330	2,8083	2,7052	2,6183	2,5439	2,4794	2,4228
> 120	2,7444	2,6211	2,5188	2,4325	2,3583	2,2938	2,2371

Table 43: Quantiles of Fisher's F–distribution $F_{0,995}(k_1, k_2)$

k_1 / k_2	15	16	17	18	19	20	25
1	24630	24682	24727	24767	24803	24836	24960
2	199,43	199,44	199,44	199,44	199,45	199,45	199,46
3	43,0847	43,0083	42,9407	42,8804	42,8263	42,7775	42,5910
4	20,4383	20,3710	20,3113	20,2581	20,2104	20,1673	20,0024
5	13,1463	13,0861	13,0327	12,9850	12,9422	12,9035	12,7554
6	9,8140	9,7582	9,7086	9,6644	9,6247	9,5888	9,4511
7	7,9678	7,9148	7,8678	7,8258	7,7881	7,7540	7,6230
8	6,8143	6,7633	6,7180	6,6775	6,6411	6,6082	6,4817
9	6,0325	5,9829	5,9388	5,8994	5,8639	5,8318	5,7084
10	5,4707	5,4221	5,3789	5,3403	5,3055	5,2740	5,1528
11	5,0489	5,0011	4,9586	4,9205	4,8863	4,8552	4,7356
12	4,7213	4,6741	4,6321	4,5945	4,5606	4,5299	4,4115
13	4,4600	4,4132	4,3716	4,3344	4,3008	4,2703	4,1528
14	4,2468	4,2005	4,1592	4,1221	4,0888	4,0585	3,9417
15	4,0698	4,0237	3,9827	3,9459	3,9127	3,8826	3,7662
16	3,9205	3,8747	3,8338	3,7972	3,7641	3,7342	3,6182
17	3,7929	3,7473	3,7066	3,6701	3,6372	3,6073	3,4916
18	3,6827	3,6373	3,5967	3,5603	3,5275	3,4977	3,3822
19	3,5866	3,5412	3,5008	3,4645	3,4318	3,4020	3,2867
20	3,5020	3,4568	3,4164	3,3802	3,3475	3,3178	3,2025
21	3,4270	3,3818	3,3416	3,3054	3,2728	3,2431	3,1279
22	3,3600	3,3150	3,2748	3,2387	3,2060	3,1764	3,0613
23	3,2999	3,2549	3,2148	3,1787	3,1461	3,1165	3,0014
24	3,2456	3,2007	3,1606	3,1246	3,0920	3,0624	2,9472
25	3,1963	3,1515	3,1114	3,0754	3,0429	3,0133	2,8981
26	3,1515	3,1067	3,0666	3,0306	2,9981	2,9685	2,8533
27	3,1104	3,0656	3,0256	2,9896	2,9571	2,9275	2,8123
28	3,0727	3,0279	2,9879	2,9520	2,9194	2,8899	2,7746
29	3,0379	2,9932	2,9532	2,9173	2,8847	2,8551	2,7398
30	3,0057	2,9611	2,9211	2,8852	2,8526	2,8230	2,7076
40	2,7811	2,7365	2,6966	2,6607	2,6281	2,5984	2,4823
60	2,5705	2,5259	2,4859	2,4498	2,4171	2,3872	2,2697
80	2,4700	2,4254	2,3854	2,3492	2,3163	2,2862	2,1678
120	2,3727	2,3280	2,2878	2,2514	2,2183	2,1881	2,0686
> 120	2,1868	2,1417	2,1011	2,0642	2,0306	1,9998	1,8771

Table 44: Quantiles of Fisher's F–distribution $F_{0,995}(k_1, k_2)$

k_1 / k_2	30	40	60	80	120	>120
1	25044	25148	25253	25306	25359	25464
2	199,47	199,47	199,50	199,50	199,50	199,50
3	42,4658	42,3082	42,1494	42,0696	41,9895	41,8283
4	19,8915	19,7518	19,6107	19,5397	19,4684	19,3247
5	12,6556	12,5297	12,4024	12,3383	12,2737	12,1435
6	9,3582	9,2408	9,1219	9,0619	9,0015	8,8793
7	7,5345	7,4224	7,3088	7,2513	7,1933	7,0760
8	6,3961	6,2875	6,1772	6,1213	6,0649	5,9506
9	5,6248	5,5186	5,4104	5,3555	5,3001	5,1875
10	5,0706	4,9659	4,8592	4,8050	4,7501	4,6385
11	4,6543	4,5508	4,4450	4,3912	4,3367	4,2255
12	4,3309	4,2282	4,1229	4,0693	4,0149	3,9039
13	4,0727	3,9704	3,8655	3,8120	3,7577	3,6465
14	3,8619	3,7600	3,6552	3,6017	3,5473	3,4359
15	3,6867	3,5850	3,4803	3,4267	3,3722	3,2602
16	3,5389	3,4372	3,3324	3,2787	3,2240	3,1115
17	3,4124	3,3108	3,2058	3,1520	3,0971	2,9839
18	3,3030	3,2014	3,0962	3,0422	2,9871	2,8732
19	3,2075	3,1058	3,0004	2,9462	2,8908	2,7762
20	3,1234	3,0215	2,9159	2,8614	2,8058	2,6904
21	3,0488	2,9467	2,8408	2,7861	2,7302	2,6140
22	2,9821	2,8799	2,7736	2,7187	2,6625	2,5455
23	2,9221	2,8197	2,7132	2,6581	2,6015	2,4837
24	2,8679	2,7654	2,6585	2,6031	2,5463	2,4276
25	2,8187	2,7160	2,6088	2,5532	2,4961	2,3765
26	2,7738	2,6709	2,5633	2,5075	2,4501	2,3297
27	2,7327	2,6296	2,5217	2,4656	2,4079	2,2867
28	2,6949	2,5916	2,4834	2,4270	2,3690	2,2470
29	2,6600	2,5565	2,4479	2,3914	2,3331	2,2102
30	2,6278	2,5241	2,4151	2,3584	2,2998	2,1760
40	2,4015	2,2958	2,1838	2,1249	2,0636	1,9318
60	2,1874	2,0789	1,9622	1,8998	1,8341	1,6885
80	2,0845	1,9739	1,8540	1,7892	1,7203	1,5634
120	1,9840	1,8709	1,7469	1,6789	1,6055	1,4311
> 120	1,7891	1,6691	1,5325	1,4540	1,3637	1,0036

Table 45: Critical values k_1 of the sign test

n_0	$\alpha = 0,05$	$\alpha = 0,01$	n_0	$\alpha = 0,05$	$\alpha = 0,01$
6	0	-	31	9	7
7	0	-	32	9	8
8	0	0	33	10	8
9	1	0	34	10	9
10	1	0	35	11	9
11	1	0	36	11	9
12	2	1	37	12	10
13	2	1	38	12	10
14	2	1	39	12	11
15	3	2	40	13	11
16	3	2	41	13	11
17	4	2	42	14	12
18	4	3	43	14	12
19	4	3	44	15	13
20	5	3	45	15	13
21	5	4	46	15	13
22	5	4	47	16	14
23	6	4	48	16	14
24	6	5	49	17	15
25	7	5	50	17	15
26	7	6	51	18	15
27	7	6	52	18	16
28	8	6	53	18	16
29	8	7	54	19	17
30	9	7	55	19	17

Table 46: Critical values $U_\alpha(n_1, n_2)$ of the Wilcoxon two-sample test for $\alpha = 0,05$

n_1 / n_2	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
4	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	0	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	1	2	3	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	1	3	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
8	0	2	4	6	8	10	13	-	-	-	-	-	-	-	-	-	-	-	-
9	0	2	4	7	10	12	15	17	-	-	-	-	-	-	-	-	-	-	-
10	0	3	5	8	11	14	17	20	23	-	-	-	-	-	-	-	-	-	-
11	0	3	6	9	13	16	19	23	26	30	-	-	-	-	-	-	-	-	-
12	1	4	7	11	14	18	22	26	29	33	37	-	-	-	-	-	-	-	-
13	1	4	8	12	16	20	24	28	33	37	41	45	-	-	-	-	-	-	-
14	1	5	9	13	17	22	26	31	36	40	45	50	55	-	-	-	-	-	-
15	1	5	10	14	19	24	29	34	39	44	49	54	59	64	-	-	-	-	-
16	1	6	11	15	21	26	31	37	42	47	53	59	64	70	75	-	-	-	-
17	2	6	11	17	22	28	34	39	45	51	57	63	69	75	81	87	-	-	-
18	2	7	12	18	24	30	36	42	48	55	61	67	74	80	86	93	99	-	-
19	2	7	13	19	25	32	38	45	52	58	65	72	78	85	92	99	106	113	-
20	2	8	14	20	27	34	41	48	55	62	69	76	83	90	98	105	112	119	127
21	2	8	15	22	29	36	43	50	58	65	73	80	88	96	103	111	119	126	134
22	3	9	16	23	30	38	45	53	61	69	77	85	93	101	109	117	125	133	141
23	3	9	17	24	32	40	48	56	64	73	81	89	98	106	115	123	132	140	149
24	3	10	17	25	33	42	50	59	67	76	85	94	102	111	120	129	138	147	156
25	3	10	18	27	35	44	53	62	71	80	89	98	107	117	126	135	145	154	161
26	4	11	19	28	37	46	55	64	74	83	93	102	112	122	132	141	151	161	171
27	4	11	20	29	38	48	57	67	77	87	97	107	117	127	137	147	158	168	178
28	4	12	21	30	40	50	60	70	80	90	101	111	122	132	143	154	164	175	186
29	4	13	22	32	42	52	62	73	83	94	105	116	127	138	149	160	171	182	193
30	5	13	23	33	43	54	65	76	87	98	109	120	131	143	154	166	177	189	200

Table 47: Critical values $D_\alpha(n)$ for the Kolmogorov–Smirnov test

n	$\alpha = 0,05$	$\alpha = 0,01$	n	$\alpha = 0,05$	$\alpha = 0,01$
1	0,9750	0,9950	31	0,2379	0,2853
2	0,8419	0,9293	32	0,2342	0,2809
3	0,7076	0,8290	33	0,2308	0,2768
4	0,6239	0,7342	34	0,2274	0,2728
5	0,5633	0,6685	35	0,2243	0,2690
6	0,5193	0,6166	36	0,2212	0,2653
7	0,4834	0,5758	37	0,2183	0,2618
8	0,4543	0,5418	38	0,2154	0,2584
9	0,4300	0,5133	39	0,2127	0,2552
10	0,4093	0,4889	40	0,2101	0,2521
11	0,3912	0,4677	41	0,2076	0,2490
12	0,3754	0,4491	42	0,2052	0,2461
13	0,3614	0,4325	43	0,2028	0,2433
14	0,3489	0,4176	44	0,2006	0,2406
15	0,3376	0,4042	45	0,1984	0,2380
16	0,3273	0,3920	46	0,1963	0,2534
17	0,3180	0,3809	47	0,1942	0,2330
18	0,3094	0,3706	48	0,1922	0,2306
19	0,3014	0,3612	49	0,1903	0,2283
20	0,2941	0,3524	50	0,1884	0,2260
21	0,2873	0,3443	51	0,1866	0,2239
22	0,2809	0,3367	52	0,1848	0,2217
23	0,2749	0,3295	53	0,1831	0,2197
24	0,2693	0,3229	54	0,1814	0,2177
25	0,2640	0,3166	55	0,1798	0,2157
26	0,2591	0,3106	56	0,1782	0,2138
27	0,2544	0,3050	57	0,1767	0,2120
28	0,2499	0,2997	58	0,1752	0,2102
29	0,2457	0,2947	59	0,1737	0,2084
30	0,2417	0,2899	60	0,1723	0,2067

Table 48: Weights $a_{i,n}$ for the Shapiro–Wilk test of normality

i	$n=2$	$n=3$	$n=4$	$n=5$	$n=6$	$n=7$	$n=8$	$n=9$
1	0,7007	1,7007	0,6872	0,6646	0,6431	0,6233	0,6052	0,5888
2	-	0,0000	0,1667	0,2413	0,2806	0,3031	0,3164	0,3244
3	-	-	-	0,0000	0,0875	0,1401	0,1743	0,1976
4	-	-	-	-	-	0,0000	0,0561	0,0947
5	-	-	-	-	-	-	-	0,0000
6	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-
i	$n=10$	$n=11$	$n=12$	$n=13$	$n=14$	$n=15$	$n=16$	$n=17$
1	0,5739	0,5601	0,5475	0,5359	0,5251	0,5150	0,5056	0,4968
2	0,3291	0,3315	0,3325	0,3325	0,3318	0,3306	0,3290	0,3273
3	0,2141	0,2260	0,2347	0,2412	0,2460	0,2495	0,2521	0,2540
4	0,1224	0,1429	0,1586	0,1707	0,1802	0,1878	0,1939	0,1988
5	0,0399	0,0695	0,0922	0,1099	0,1240	0,1353	0,1447	0,1524
6	-	0,0000	0,0303	0,0539	0,7270	0,0880	0,1005	0,1109
7	-	-	-	0,0000	0,0240	0,0433	0,0593	0,0725
8	-	-	-	-	-	0,0000	0,0196	0,0359
9	-	-	-	-	-	-	-	0,0000
10	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-
i	$n=18$	$n=19$	$n=20$	$n=21$	$n=22$	$n=23$	$n=24$	$n=25$
1	0,4886	0,4808	0,4734	0,4643	0,4590	0,4542	0,0449	0,4450
2	0,3253	0,3232	0,3211	0,3185	0,3156	0,3126	0,3098	0,3069
3	0,2553	0,2561	0,2565	0,2578	0,2571	0,2563	0,2554	0,2543
4	0,2027	0,2059	0,2085	0,2119	0,2131	0,2139	0,2145	0,2148
5	0,1587	0,1641	0,1686	0,1736	0,1764	0,1787	0,1807	0,1822
6	0,1197	0,1271	0,1334	0,1399	0,1443	0,1480	0,1512	0,1539
7	0,0837	0,0932	0,1013	0,1092	0,1150	0,1201	0,1245	0,1283
8	0,0496	0,0612	0,0711	0,0804	0,0878	0,0941	0,0997	0,1046
9	0,0163	0,0303	0,0422	0,0530	0,0618	0,0696	0,0764	0,0823
10	-	0,0000	0,0140	0,0263	0,0368	0,0459	0,0539	0,0610
11	-	-	-	0,0000	0,0122	0,0228	0,0321	0,0403
12	-	-	-	-	-	0,0000	0,0107	0,0200

Table 49: Critical values $W_\alpha(n)$ for the Shapiro–Wilk test of normality

n	$\alpha = 0,05$	$\alpha = 0,01$
3	0,767	0,753
4	0,748	0,687
5	0,762	0,686
6	0,788	0,713
7	0,803	0,730
8	0,818	0,749
9	0,829	0,764
10	0,842	0,781
11	0,850	0,792
12	0,859	0,805
13	0,866	0,814
14	0,874	0,825
15	0,881	0,835
16	0,887	0,844
17	0,892	0,851
18	0,897	0,858
19	0,901	0,863
20	0,905	0,868
21	0,908	0,873
22	0,911	0,878
23	0,914	0,881
24	0,916	0,884
25	0,918	0,888
26	0,920	0,891
27	0,923	0,894
28	0,924	0,896
29	0,926	0,898
30	0,927	0,900

Table 50: Critical values $T_\alpha(n)$ for the Grubbs test

n	$\alpha = 0,05$	$\alpha = 0,01$
3	1,142	1,414
4	1,689	1,723
5	1,187	1,955
6	1,996	2,130
7	2,093	2,265
8	2,172	2,374
9	2,238	2,464
10	2,294	2,540
11	2,340	2,606
12	2,387	2,663
13	2,426	2,713
14	2,461	2,759
15	2,494	2,800
16	2,523	2,837
17	2,551	2,871
18	2,577	2,903
19	2,601	2,932
20	2,623	2,959
21	2,644	2,984
22	2,664	3,008
23	2,683	3,030
24	2,701	3,051
25	2,718	3,071
26	2,734	3,089
27	2,749	3,107
28	2,764	3,124
29	2,778	3,140
30	2,792	3,156

Table 51: Critical values $Q_\alpha(n)$ for the Dixon test

n	$\alpha = 0,05$	$\alpha = 0,01$
3	0,941	0,988
4	0,765	0,889
5	0,642	0,780
6	0,560	0,698
7	0,507	0,637
8	0,468	0,590
9	0,437	0,555
10	0,412	0,527
11	0,392	0,502
12	0,376	0,482
13	0,361	0,465
14	0,349	0,450
15	0,338	0,438
16	0,329	0,426
17	0,320	0,416
18	0,313	0,407
19	0,306	0,398
20	0,300	0,391
21	0,295	0,384
22	0,290	0,378
23	0,285	0,321
24	0,281	0,367
25	0,277	0,362
26	0,273	0,357
27	0,269	0,353
28	0,266	0,349
29	0,263	0,345
30	0,260	0,341

Table 52: Critical values $r_\alpha(n)$ for the Spearman independence test

n	$\alpha = 0,05$	$\alpha = 0,01$
5	0,9000	-
6	0,8286	0,9429
7	0,7450	0,8929
8	0,6905	0,8571
9	0,6833	0,8167
10	0,6364	0,7818
11	0,6091	0,7545
12	0,5804	0,7273
13	0,5549	0,6978
14	0,5341	0,6747
15	0,5179	0,6536
16	0,5000	0,6324
17	0,4853	0,6152
18	0,4716	0,5975
19	0,4579	0,5825
20	0,4451	0,5684
21	0,4351	0,5545
22	0,4241	0,5426
23	0,4150	0,5306
24	0,4061	0,5200
25	0,3977	0,5100
26	0,3894	0,5002
27	0,3822	0,4915
28	0,3749	0,4828
29	0,3685	0,4744
30	0,3620	0,4665

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