Wilcoxon signed-rank test: table of critical values

Full guide: benchfig.com/en/guide/wilcoxon-signed-rank-test/ Version 2026-11-25

Two-tailed α：0.1 / 0.05 / 0.02 / 0.01 （One-tailed α：0.05 / 0.025 / 0.01 / 0.005）

n (non-zero differences)	0.1	0.05	0.02	0.01
	0.05	0.025	0.01	0.005
5	0	—	—	—
6	2	0	—	—
7	3	2	0	—
8	5	3	1	0
9	8	5	3	1
10	10	8	5	3
11	13	10	7	5
12	17	13	9	7
13	21	17	12	9
14	25	21	15	12
15	30	25	19	15
16	35	29	23	19
17	41	34	27	23
18	47	40	32	27
19	53	46	37	32
20	60	52	43	37
21	67	58	49	42
22	75	65	55	48
23	83	73	62	54
24	91	81	69	61
25	100	89	76	68
26	110	98	84	75
27	119	107	92	83

n (non-zero differences)	0.1	0.05	0.02	0.01
	0.05	0.025	0.01	0.005
28	130	116	101	91
29	140	126	110	100
30	151	137	120	109
31	163	147	130	118
32	175	159	140	128
33	187	170	151	138
34	200	182	162	148
35	213	195	173	159
36	227	208	185	171
37	241	221	198	182
38	256	235	211	194
39	271	249	224	207
40	286	264	238	220
41	302	279	252	233
42	319	294	266	247
43	336	310	281	261
44	353	327	296	276
45	371	343	312	291
46	389	361	328	307
47	407	378	345	322
48	426	396	362	339
49	446	415	379	355
50	466	434	397	373

The result is significant if the observed T = min(R+, R−) (the smaller of the rank sums of positive and negative differences) is **less than or equal to** the value in the table. n is the number of pairs after dropping zero differences. “—” means no outcome can be significant for that n.

Computed from the exact distribution without zeros or ties (the largest T with two-tailed P = 2 × P(T ≤ value) ≤ α; one-tailed P(T ≤ value) ≤ α). Every cell was checked against SciPy 1.18 wilcoxon (method="exact"). With many ties or zeros, or n above 50, use the normal approximation or software.

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