Mann–Whitney U test: table of critical values

Full guide: benchfig.com/en/guide/mann-whitney-u-test/ Version 2026-11-24

Two-tailed α = 0.05 (one-tailed α = 0.025)

$n_1 \downarrow$ / $n_2 \rightarrow$	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	—	—	—	—	—	—	0	0	0	0	1	1	1	1	1	2	2	2	2
3	—	—	—	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8
4	—	—	0	1	2	3	4	4	5	6	7	8	9	10	11	11	12	13	14
5	—	0	1	2	3	5	6	7	8	9	11	12	13	14	15	17	18	19	20
6	—	1	2	3	5	6	8	10	11	13	14	16	17	19	21	22	24	25	27
7	—	1	3	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
8	0	2	4	6	8	10	13	15	17	19	22	24	26	29	31	34	36	38	41
9	0	2	4	7	10	12	15	17	20	23	26	28	31	34	37	39	42	45	48
10	0	3	5	8	11	14	17	20	23	26	29	33	36	39	42	45	48	52	55
11	0	3	6	9	13	16	19	23	26	30	33	37	40	44	47	51	55	58	62
12	1	4	7	11	14	18	22	26	29	33	37	41	45	49	53	57	61	65	69
13	1	4	8	12	16	20	24	28	33	37	41	45	50	54	59	63	67	72	76
14	1	5	9	13	17	22	26	31	36	40	45	50	55	59	64	69	74	78	83
15	1	5	10	14	19	24	29	34	39	44	49	54	59	64	70	75	80	85	90
16	1	6	11	15	21	26	31	37	42	47	53	59	64	70	75	81	86	92	98
17	2	6	11	17	22	28	34	39	45	51	57	63	69	75	81	87	93	99	105
18	2	7	12	18	24	30	36	42	48	55	61	67	74	80	86	93	99	106	112
19	2	7	13	19	25	32	38	45	52	58	65	72	78	85	92	99	106	113	119
20	2	8	14	20	27	34	41	48	55	62	69	76	83	90	98	105	112	119	127

The result is significant if the observed U (the smaller of U_1 and $U_2 = n_1 n_2 - U_1$) is **less than or equal to** the value in the table. “—” means no outcome can be significant for that n. The table is the same with n_1 and n_2 swapped.

Computed from the exact distribution without ties (the largest U with two-tailed P = 2 × P(U ≤ value) ≤ α). Every cell was checked against SciPy 1.18 mannwhitneyu (method="exact"). With many ties or n above 20, use the normal approximation or software.

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Mann–Whitney U test: table of critical values

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Two-tailed α = 0.01 (one-tailed α = 0.005)

$n_1 \downarrow$ / $n_2 \rightarrow$	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	0
3	—	—	—	—	—	—	—	0	0	0	1	1	1	2	2	2	2	3	3
4	—	—	—	—	0	0	1	1	2	2	3	3	4	5	5	6	6	7	8
5	—	—	—	0	1	1	2	3	4	5	6	7	7	8	9	10	11	12	13
6	—	—	0	1	2	3	4	5	6	7	9	10	11	12	13	15	16	17	18
7	—	—	0	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24
8	—	—	1	2	4	6	7	9	11	13	15	17	18	20	22	24	26	28	30
9	—	0	1	3	5	7	9	11	13	16	18	20	22	24	27	29	31	33	36
10	—	0	2	4	6	9	11	13	16	18	21	24	26	29	31	34	37	39	42
11	—	0	2	5	7	10	13	16	18	21	24	27	30	33	36	39	42	45	48
12	—	1	3	6	9	12	15	18	21	24	27	31	34	37	41	44	47	51	54
13	—	1	3	7	10	13	17	20	24	27	31	34	38	42	45	49	53	57	60
14	—	1	4	7	11	15	18	22	26	30	34	38	42	46	50	54	58	63	67
15	—	2	5	8	12	16	20	24	29	33	37	42	46	51	55	60	64	69	73
16	—	2	5	9	13	18	22	27	31	36	41	45	50	55	60	65	70	74	79
17	—	2	6	10	15	19	24	29	34	39	44	49	54	60	65	70	75	81	86
18	—	2	6	11	16	21	26	31	37	42	47	53	58	64	70	75	81	87	92
19	0	3	7	12	17	22	28	33	39	45	51	57	63	69	74	81	87	93	99
20	0	3	8	13	18	24	30	36	42	48	54	60	67	73	79	86	92	99	105

The result is significant if the observed U (the smaller of U_1 and $U_2 = n_1 n_2 - U_1$) is **less than or equal to** the value in the table. “—” means no outcome can be significant for that n. The table is the same with n_1 and n_2 swapped.

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