TABLE G

Critical values of r in the runs test*

Given in the tables are various critical values of r for values of m and n less than or equal to 20. For the one-sample runs test, any observed value of r which is less than or equal to the smaller value, or is greater than or equal to the larger value in a pair is significant at the $\alpha = .05$ level.

m \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2											2 –	2 –	2 –	2 –	2 –	2 –	2 –	2 –	2 –
3					2 –	2 –	2 –	2 –	2 –	2 –	2 –	2 –	2 –	3 –	3 –	3 –	3 –	3 –	3 –
4				2 9	2 9	2 –	3 –	3 –	3 –	3 –	3 –	3 –	3 –	3 –	4 –	4 –	4 –	4 –	4 –
5			2 9	2 10	3 10	3 11	3 11	3 –	3 –	4 –	4 –	4 –	4 –	4 –	4 –	4 –	5 –	5 –	5 –
6		2 –	2 9	3 10	3 11	3 12	3 12	4 13	4 13	4 13	4 13	5 –	5 –	5 –	5 –	5 –	5 –	6 –	6 –
7		2 –	2 –	3 11	3 12	3 13	4 13	4 14	5 14	5 14	5 14	5 15	5 15	6 15	6 –	6 –	6 –	6 –	6 –
8		2 –	3 –	3 11	3 12	4 13	4 14	5 14	5 15	5 15	6 16	6 16	6 16	6 16	6 17	7 17	7 17	7 17	7 17
9		2 –	3 –	3 –	4 13	4 14	5 14	5 15	5 16	6 16	6 16	6 17	7 17	7 18	7 18	7 18	8 18	8 18	8 18
10		2 –	3 –	3 –	4 13	5 14	5 15	5 16	6 16	6 17	7 17	7 18	7 18	7 18	8 19	8 19	8 19	8 20	9 20
11		2 –	3 –	4 –	4 13	5 14	5 15	6 16	6 17	7 17	7 18	7 19	8 19	8 19	8 20	9 20	9 20	9 21	9 21
12	2 –	2 –	3 –	4 –	4 13	5 14	6 16	6 16	7 17	7 18	7 19	8 19	8 20	8 20	9 21	9 21	9 21	10 22	10 22
13	2 –	2 –	3 –	4 –	5 –	5 15	6 16	6 17	7 18	7 19	8 19	8 20	9 20	9 21	9 21	10 22	10 22	10 23	10 23
14	2 –	2 –	3 –	4 –	5 –	5 15	6 16	7 17	7 18	8 19	8 20	9 20	9 21	9 22	10 22	10 23	10 23	11 23	11 24
15	2 –	3 –	3 –	4 –	5 –	6 15	6 16	7 18	7 18	8 19	8 20	9 21	9 22	10 22	10 23	11 23	11 24	11 24	12 25
16	2 –	3 –	4 –	4 –	5 –	6 –	6 17	7 18	8 19	8 20	9 21	9 21	10 22	10 23	11 23	11 24	11 25	12 25	12 25
17	2 –	3 –	4 –	4 –	5 –	6 –	7 17	7 18	8 19	9 20	9 21	10 22	10 23	11 23	11 24	11 25	12 25	12 26	13 26
18	2 –	3 –	4 –	5 –	5 –	6 –	7 17	8 18	8 19	9 20	9 21	10 22	10 23	11 24	11 25	12 25	12 26	13 26	13 27
19	2 –	3 –	4 –	5 –	6 –	6 –	7 17	8 18	8 20	9 21	10 22	10 23	11 23	11 24	12 25	12 26	13 26	13 27	13 27
20	2 –	3 –	4 –	5 –	6 –	6 –	7 17	8 18	9 20	9 21	10 22	10 23	11 24	12 25	12 25	13 26	13 27	13 27	14 28

* Adapted from Swed, and Eisenhart, C. (1943). Tables for testing randomness of grouping in a sequence of alternatives. *Annals of Mathematical Statistics*, **14**, 83–86, with the kind permission of the authors and publisher.