

TABLE B.7: CRITICAL VALUES FOR PEARSON'S CORRELATION COEFFICIENT

Using Table B.7

For any given df, this table shows the values of r corresponding to various levels of probability. The r_{observed} is statistically significant at a given level when it is equal to or greater than the value shown in the table.

Examples:

Nondirectional Hypothesis

$$H_0: \rho = 0 \qquad H_1: \rho \neq 0 \qquad \alpha = 0.05, \text{ df} = 30$$

$$r_{\text{critical}} = \pm 0.3494 \qquad \text{If } |r_{\text{observed}}| \geq |r_{\text{critical}}| \text{ then reject } H_0$$

Directional Hypothesis

$$H_0: \rho \leq 0 \qquad H_1: \rho > 0 \qquad \alpha = 0.05, \text{ df} = 30$$

$$r_{\text{critical}} = +0.2960 \qquad \text{If } r_{\text{observed}} \geq r_{\text{critical}} \text{ then reject } H_0$$

$$H_0: \rho \geq 0 \qquad H_1: \rho < 0 \qquad \alpha = 0.05, \text{ df} = 30$$

$$r_{\text{critical}} = -0.2960 \qquad \text{If } r_{\text{observed}} \leq r_{\text{critical}} \text{ then reject } H_0$$

Note that the relation between the correlation coefficient and the t -ratio is

$$r_c = \frac{t_c}{\sqrt{(n-2) + t_c^2}}$$

TABLE B.7. Critical Values for Pearson's Correlation Coefficient

Level of Significance of a One-Tailed or Directional Test						
$H_0: \rho \leq 0$ or $H_0: \rho \geq 0$						
	$\alpha = 0.1$	$\alpha = 0.05$	$\alpha = 0.025$	$\alpha = 0.01$	$\alpha = 0.005$	$\alpha = 0.0005$
Level of Significance of a Two-Tailed or Nondirectional Test						
$H_0: \rho = 0$						
df	$\alpha = 0.2$	$\alpha = 0.1$	$\alpha = 0.05$	$\alpha = 0.02$	$\alpha = 0.01$	$\alpha = 0.001$
1	0.9511	0.9877	0.9969	0.9995	0.9999	0.9999
2	0.8000	0.9000	0.9500	0.9800	0.9900	0.9990
3	0.6870	0.8054	0.8783	0.9343	0.9587	0.9911
4	0.6084	0.7293	0.8114	0.8822	0.9172	0.9741
5	0.5509	0.6694	0.7545	0.8329	0.8745	0.9509
6	0.5067	0.6215	0.7067	0.7887	0.8343	0.9249
7	0.4716	0.5822	0.6664	0.7498	0.7977	0.8983
8	0.4428	0.5494	0.6319	0.7155	0.7646	0.8721
9	0.4187	0.5214	0.6021	0.6851	0.7348	0.8470
10	0.3981	0.4973	0.5760	0.6581	0.7079	0.8233
11	0.3802	0.4762	0.5529	0.6339	0.6835	0.8010
12	0.3646	0.4575	0.5324	0.6120	0.6614	0.7800
13	0.3507	0.4409	0.5140	0.5923	0.6411	0.7604
14	0.3383	0.4259	0.4973	0.5742	0.6226	0.7419
15	0.3271	0.4124	0.4821	0.5577	0.6055	0.7247
16	0.3170	0.4000	0.4683	0.5425	0.5897	0.7084
17	0.3077	0.3887	0.4555	0.5285	0.5751	0.6932
18	0.2992	0.3783	0.4438	0.5155	0.5614	0.6788
19	0.2914	0.3687	0.4329	0.5034	0.5487	0.6652
20	0.2841	0.3598	0.4227	0.4921	0.5368	0.6524
21	0.2774	0.3515	0.4132	0.4815	0.5256	0.6402
22	0.2711	0.3438	0.4044	0.4716	0.5151	0.6287
23	0.2653	0.3365	0.3961	0.4622	0.5052	0.6178
24	0.2598	0.3297	0.3882	0.4534	0.4958	0.6074
25	0.2546	0.3233	0.3809	0.4451	0.4869	0.5974
30	0.2327	0.2960	0.3494	0.4093	0.4487	0.5541
35	0.2156	0.2746	0.3246	0.3810	0.4182	0.5189
40	0.2018	0.2573	0.3044	0.3578	0.3932	0.4896
50	0.1806	0.2306	0.2732	0.3218	0.3542	0.4432
60	0.1650	0.2108	0.2500	0.2948	0.3248	0.4079
70	0.1528	0.1954	0.2319	0.2737	0.3017	0.3798
80	0.1430	0.1829	0.2172	0.2565	0.2830	0.3568
90	0.1348	0.1726	0.2050	0.2422	0.2673	0.3375
100	0.1279	0.1638	0.1946	0.2301	0.2540	0.3211
150	0.1045	0.1339	0.1593	0.1886	0.2084	0.2643
300	0.0740	0.0948	0.1129	0.1338	0.1480	0.1884
500	0.0573	0.0735	0.0875	0.1038	0.1149	0.1464
1000	0.0405	0.0520	0.0619	0.0735	0.0813	0.1038