Figure 13.13o. 99.9995*th* PERCENTILES FOR THE *F* DISTRIBUTION [F_{ν_1,ν_2}]

[Calculated with *qf* in **R** Version 3.2.2 using 17-digit arithmetic; the accuracy of all digits in the table entries has *not* been verified]

Each table entry is the value (y) of the random variable $Y \sim F_{\nu_1,\nu_2}$ such that $\Pr(Y \le y) = 0.999\,995$ (ν_1 is the numerator, ν_2 the denominator, degrees of freedom)

$Df \rightarrow$ / ν_2 / ν_1	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	50	60	75	100	175	350	1,000	
1	162 211 389 382	1 999 999 999 999	216 515 185 843	2 249 999 999 999	23 056 198 233	234 374 999 999	2 371 494 675 4	2 392 578 124 9	2 409 137 448 0	2 422 485 351 5	2 442 672 729 4	2 463 056 070 2	2 483 632 090 7	2 496 068 711 9	2 504 397 211 5	2 514 879 490 2	2 521 142 879 1	2 525 347 578 6	2 529 559 524 6	2 533 778 683 1	2 539 213 858 2	2 542 843 864 3	2 545 206 168 3	1
2	199 998.5	199 999.0	199 999.2	199 999.2	199 999.3	199 999.3	199 999.4	199 999.4	199 999.4	199 999.4	199 999.4	199 999.4	199 999.4	199 999.5	199 999.5	199 999.5	199 999.5	199 999.5	199 999.5	199 999.5	199 999.5	199 999.5	199 999.5	
3	5 791.9	5 128.4	4 865.7	4 723.7	4 634.5	4 573.2	4 528.6	4 494.5	4 467.7	4 446.1	4 413.3	4 380.1	4 346.4	4 325.9	4 312.2	4 295.0	4 284.6	4 277.6	4 270.6	4 263.6	4 254.6	4 248.6	4 244.7	
4	1 092.11	892.43	814.94	773.26	747.13	729.19	716.09	706.11	698.24	691.89	682.24	672.46	662.52	656.49	652.44	647.34	644.26	642.20	640.13	638.06	635.38	633.59	632.42	
5	424.00	327.38	290.42	270.63	258.23	249.72	243.51	238.77	235.04	232.02	227.43	222.77	218.04	215.16	213.22	210.78	209.31	208.32	207.33	206.33	205.05	204.19	203.63	5
6	232.867	172.441	149.578	137.371	129.733	124.490	120.661	117.740	115.437	113.573	110.741	107.862	104.933	103.149	101.949	100.435	99.519	98.905	98.289	97.670	96.870	96.334	95.985	
7	154.675	110.958	94.549	85.810	80.347	76.596	73.857	71.766	70.117	68.782	66.752	64.687	62.583	61.300	60.436	59.345	58.685	58.242	57.797	57.350	56.772	56.385	56.132	
8	115.158	80.590	67.694	60.839	56.556	53.616	51.469	49.829	48.535	47.487	45.893	44.270	42.614	41.603	40.922	40.061	39.539	39.189	38.837	38.484	38.026	37.719	37.519	
9	92.253	63.298	52.549	46.844	43.281	40.835	39.048	37.683	36.606	35.733	34.404	33.050	31.668	30.823	30.253	29.532	29.094	28.801	28.506	28.209	27.824	27.566	27.398	
10	77.655	52.435	43.108	38.164	35.077	32.958	31.410	30.227	29.293	28.536	27.383	26.207	25.005	24.269	23.773	23.144	22.762	22.506	22.248	21.989	21.652	21.426	21.279	10
11	67.688	45.104	36.778	32.369	29.618	27.728	26.348	25.292	24.459	23.783	22.753	21.702	20.627	19.968	19.523	18.959	18.616	18.386	18.154	17.921	17.618	17.415	17.282	
12	60.520	39.883	32.295	28.280	25.775	24.054	22.797	21.836	21.076	20.460	19.521	18.562	17.579	16.977	16.570	16.053	15.739	15.528	15.315	15.100	14.822	14.635	14.513	
13	55.153	36.007	28.981	25.267	22.950	21.358	20.195	19.305	18.602	18.031	17.161	16.272	15.360	14.801	14.422	13.942	13.649	13.452	13.254	13.054	12.794	12.619	12.505	
14	51.003 0	33.030 2	26.447 7	22.969 3	20.799 4	19.309 4	18.219 5	17.386 1	16.727 1	16.192 5	15.376 8	14.542 3	13.686 0	13.160 1	12.803 8	12.351 3	12.075 7	11.890 1	11.702 9	11.514 0	11.268 6	11.103 3	10.995 1	
15	47.709 7	30.682 6	24.456 2	21.167 7	19.116 5	17.707 7	16.677 2	15.888 9	15.265 5	14.759 6	13.987 4	13.196 9	12.385 1	11.886 1	11.547 7	11.117 6	10.855 5	10.678 8	10.500 5	10.320 6	10.086 6	9.928 8	9.825 5	15
16	45.039 2	28.789 1	22.855 0	19.722 1	17.768 2	16.426 2	15.444 2	14.693 0	14.098 7	13.616 3	12.879 7	12.125 3	11.349 9	10.872 7	10.549 0	10.137 2	9.886 0	9.716 5	9.545 5	9.372 8	9.148 0	8.996 3	8.896 9	
17	42.834 3	27.233 0	21.542 7	18.539 7	16.666 9	15.380 4	14.439 0	13.718 6	13.148 6	12.685 8	11.978 9	11.254 4	10.509 2	10.050 3	9.738 7	9.342 0	9.099 8	8.936 4	8.771 3	8.604 5	8.387 2	8.240 5	8.144 3	
18	40.985 5	25.933 8	20.449 8	17.556 5	15.752 2	14.512 8	13.605 6	12.911 3	12.361 8	11.915 5	11.233 7	10.534 6	9.814 8	9.371 2	9.069 8	8.685 9	8.451 2	8.292 8	8.132 7	7.970 8	7.759 8	7.617 2	7.523 6	
19	39.414 9	24.834 2	19.526 8	16.727 5	14.981 9	13.782 6	12.904 7	12.223 7	11.700 8	11.268 7	10.608 2	9.930 8	9.232 8	8.802 3	8.509 5	8.136 3	7.901 8	7.753 9	7.598 0	7.440 3	7.234 5	7.095 4	7.004 0	
20	38.065 2	23.892 5	18.737 8	16.019 9	14.325 0	13.160 5	12.308 0	11.655 2	11.138 5	10.718 6	10.076 7	9.417 9	8.738 7	8.319 4	8.034 1	7.670 2	7.447 4	7.296 9	7.144 5	6.990 3	6.789 0	6.652 8	6.563 3	20
22	35.868 0	22.366 0	17.462 4	14.877 9	13.266 4	12.158 9	11.348 0	10.726 8	10.234 9	9.835 1	9.223 6	8.595 3	7.946 8	7.545 9	7.272 8	6.923 9	6.710 0	6.565 3	6.418 7	6.270 1	6.075 9	5.944 3	5.857 7	
24	34.158 4	21.184 4	16.478 1	13.998 5	12.452 3	11.389 7	10.611 4	10.015 1	9.542 7	9.158 7	8.570 9	7.966 6	7.342 0	6.955 4	6.691 8	6.354 5	6.147 4	6.007 1	5.864 9	5.720 6	5.531 7	5.403 5	5.319 0	
26	32.792 2	20.244 1	15.696 8	13.301 7	11.808 3	10.781 8	10.029 7	9.453 4	8.996 7	8.625 3	8.056 7	7.471 6	6.866 3	6.491 1	6.234 9	5.906 9	5.705 2	5.568 4	5.429 6	5.288 6	5.103 8	4.978 0	4.895 1	
28	31.676 4	19.479 0	15.062 6	12.736 9	11.286 8	10.289 9	9.559 5	8.999 6	8.555 9	8.194 9	7.641 9	7.072 6	6.483 0	6.117 1	5.867 1	5.546 4	5.349 0	5.215 1	5.079 0	4.940 6	4.758 9	4.635 0	4.553 3	
30	30.748 7	18.844 9	14.537 8	12.270 3	10.856 4	9.884 4	9.172 0	8.625 8	8.192 8	7.840 5	7.300 7	6.744 5	6.168 0	5.809 8	5.564 9	5.250 3	5.056 5	4.924 8	4.790 9	4.654 5	4.475 3	4.352 9	4.272 0	30
35	28.996 4	17.652 3	13.553 7	11.396 7	10.051 8	9.127 0	8.448 9	7.928 9	7.516 4	7.180 6	6.665 6	6.134 4	5.582 7	5.239 0	5.003 5	4.700 3	4.512 9	4.385 3	4.255 3	4.122 5	3.947 4	3.827 3	3.747 8	35
40	27.766 7	16.819 8	12.868 8	10.790 2	9.494 1	8.602 7	7.949 0	7.447 4	7.044 9	6.725 3	6.227 9	5.714 3	5.179 8	4.846 3	4.617 3	4.321 9	4.138 7	4.013 8	3.886 2	3.755 7	3.582 8	3.463 9	3.384 8	40
45	26.857 3	16.206 5	12.365 5	10.345 2	9.085 5	8.219 0	7.583 4	7.095 5	6.708 3	6.392 9	5.908 5	5.407 9	4.886 3	4.560 2	4.335 9	4.046 0	3.865 9	3.742 8	3.616 8	3.487 7	3.316 0	3.197 5	3.118 5	45
50	26.157 8	15.736 3	11.980 4	10.005 2	8.773 6	7.926 3	7.304 7	6.827 5	6.448 6	6.139 8	5.665 6	5.175 0	4.663 2	4.342 8	4.122 1	3.836 3	3.658 4	3.536 5	3.411 7	3.283 4	3.112 3	2.993 8	2.914 5	50
60	25.153 3	15.063 2	11.430 3	9.520 3	8.329 3	7.509 8	6.908 4	6.446 5	6.079 6	5.780 5	5.320 8	4.844 7	4.346 9	4.034 5	3.818 9	3.533 8	3.363 8	3.243 5	3.120 0	2.992 5	2.821 6	2.702 3	2.621 9	
70	24.467 0	14.605 1	11.056 7	9.191 5	8.028 4	7.228 0	6.640 4	6.189 1	5.830 5	5.538 0	5.088 2	4.622 0	4.133 8	3.826 8	3.614 5	3.338 1	3.164 8	3.045 5	2.922 5	2.795 3	2.623 7	2.503 2	2.421 4	
80	23.968 7	14.273 2	10.786 5	8.954 0	7.811 3	7.024 8	6.447 3	6.003 7	5.651 1	5.363 4	4.920 9	4.461 8	3.980 6	3.677 5	3.467 5	3.193 7	3.021 6	2.902 8	2.780 0	2.652 6	2.480 1	2.358 1	2.274 9	
90	23.590 5	14.021 9	10.582 2	8.774 5	7.647 3	6.871 4	6.301 6	5.863 8	5.515 8	5.231 8	4.794 8	4.341 2	3.865 2	3.565 0	3.356 8	3.084 8	2.913 4	2.794 9	2.672 3	2.544 6	2.371 0	2.247 5	2.162 8	
100	23.293 7	13.825 0	10.422 2	8.634 1	7.519 1	6.751 5	6.187 8	5.754 6	5.410 2	5.129 1	4.696 4	4.247 1	3.775 2	3.477 3	3.270 4	2.999 7	2.829 0	2.710 7	2.588 0	2.460 0	2.285 2	2.160 1	2.073 9	100
125	22.772 0	13.479 5	10.141 9	8.388 4	7.294 9	6.542 0	5.989 0	5.563 8	5.225 8	4.949 8	4.524 7	4.082 9	3.618 1	3.324 2	3.119 6	2.851 2	2.681 2	2.563 1	2.440 1	2.311 2	2.133 6	2.005 0	1.919 1	
150	22.433 0	13.255 5	9.960 4	8.229 4	7.149 9	6.406 5	5.860 5	5.440 7	5.106 7	4.834 1	4.414 0	3.977 0	3.516 9	3.225 4	3.022 4	2.755 3	2.585 7	2.467 6	2.344 2	2.214 4	2.034 3	1.902 5	1.809 3	
175	22.195 1	13.098 4	9.833 3	8.118 1	7.048 4	6.311 9	5.770 7	5.354 6	5.023 6	4.753 3	4.336 6	3.903 1	3.446 3	3.156 5	2.954 4	2.688 3	2.518 9	2.400 6	2.276 9	2.146 3	1.964 0	1.829 4	1.733 1	
200	22.018 9	12.982 3	9.739 3	8.035 9	6.973 5	6.242 0	5.704 5	5.291 1	4.962 2	4.693 6	4.279 6	3.848 6	3.394 1	3.105 7	2.904 3	2.638 8	2.469 5	2.351 2	2.227 1	2.095 7	1.911 6	1.774 4	1.675 4	
250	21.775 3	12.821 9	9.609 6	7.922 5	6.870 3	6.145 6	5.613 2	5.203 6	4.877 7	4.611 5	4.201 0	3.773 5	3.322 4	3.035 7	2.835 3	2.570 6	2.401 4	2.282 8	2.158 2	2.025 7	1.838 5	1.697 1	1.593 3	250
300	21.615 0	12.716 4	9.524 4	7.848 0	6.802 5	6.082 4	5.553 3	5.146 2	4.822 3	4.557 7	4.149 6	3.724 4	3.275 4	2.989 8	2.790 1	2.525 8	2.356 7	2.237 9	2.112 8	1.979 4	1.789 9	1.645 1	1.537 2	
350	21.501 5	12.641 8	9.464 2	7.795 4	6.754 6	6.037 7	5.510 9	5.105 7	4.783 2	4.519 6	4.113 2	3.689 6	3.242 2	2.957 4	2.758 1	2.494 2	2.325 0	2.206 1	2.080 7	1.946 6	1.755 1	1.607 6	1.496 2	
400	21.416 9	12.586 2	9.419 3	7.756 2	6.718 9	6.004 5	5.479 4	5.075 5	4.754 0	4.491 3	4.086 1	3.663 8	3.217 5	2.933 3	2.734 3	2.470 6	2.301 5	2.182 4	2.056 7	1.922 0	1.729 0	1.579 2	1.464 8	
450	21.351 4	12.543 2	9.384 6	7.725 9	6.691 3	5.978 8	5.455 1	5.052 2	4.731 5	4.469 5	4.065 2	3.643 8	3.198 4	2.914 7	2.715 9	2.452 4	2.283 2	2.164 0	2.038 1	1.903 0	1.708 7	1.557 0	1.439 9	
500	21.299 2	12.509 0	9.357 0	7.701 7	6.669 4	5.958 3	5.435 7	5.033 6	4.713 6	4.452 1	4.048 6	3.627 9	3.183 2	2.899 9	2.701 3	2.437 9	2.268 7	2.149 4	2.023 2	1.887 7	1.692 4	1.539 1	1.419 6	500
600	21.221 3	12.457 8	9.315 7	7.665 7	6.636 6	5.927 7	5.406 8	5.005 9	4.686 8	4.426 1	4.023 7	3.604 2	3.160 6	2.877 8	2.679 5	2.416 3	2.247 0	2.127 6	2.001 1	1.865 0	1.668 0	1.512 0	1.388 5	
700	21.165 8	12.421 4	9.286 3	7.640 1	6.613 3	5.906 0	5.386 2	4.986 2	4.667 8	4.407 6	4.006 1	3.587 4	3.144 5	2.862 0	2.663 9	2.400 9	2.231 6	2.112 0	1.985 3	1.848 8	1.650 5	1.492 4	1.365 7	
800	21.124 4	12.394 2	9.264 4	7.620 9	6.595 9	5.889 8	5.370 8	4.971 5	4.653 6	4.393 8	3.999 2	3.574 8	3.132 4	2.850 3	2.652 4	2.389 4	2.220 1	2.100 4	1.973 5	1.836 6	1.637 3	1.477 6	1.348 2	
900	21.092 2	12.373 1	9.247 4	7.606 1	6.582 4	5.877 2	5.358 9	4.960 1	4.642 6	4.383 2	3.982 7	3.565 0	3.123 1	2.841 2	2.643 4	2.380 5	2.211 1	2.091 4	1.964 3	1.827 2	1.627 1	1.466 0	1.334 3	
1,000	21.066 5	12.356 3	9.233 8	7.594 2	6.571 6	5.867 2	5.349 4	4.951 0	4.633 9	4.374 6	3.974 6	3.557 3	3.115 7	2.833 9	2.636 2	2.373 4	2.204 0	2.084 2	1.957 0	1.819 6	1.618 9	1.456 6	1.323 0	1,000
2,000	20.951 5	12.280 9	9.173 0	7.541 2	6.523 4	5.822 3	5.306 9	4.910 3	4.594 6	4.336 5	3.938 1	3.522 5	3.082 4	2.801 5	2.604 1	2.341 5	2.172 0	2.052 0	1.924 2	1.785 7	1.581 8	1.413 9	1.269 6	
3,000	20.913 3	12.255 9	9.152 9	7.523 6	6.507 4	5.807 4	5.292 8	4.896 8	4.581 6	4.323 8	3.926 0	3.510 9	3.071 4	2.790 7	2.593 5	2.331 0	2.161 4	2.041 3	1.913 3	1.774 4	1.569 4	1.399 4	1.250 6	
4,000	20.894 3	12.243 4	9.142 9	7.514 8	6.499 5	5.800 0	5.285 8	4.890 1	4.575 1	4.317 5	3.920 0	3.505 2	3.065 9	2.785 3	2.588 2	2.325 7	2.156 1	2.035 9	1.907 8	1.768 8	1.563 2	1.392 1	1.240 8	
5,000	20.882 9	12.235 9	9.136 8	7.509 6	6.494 7	5.795 5	5.281 6	4.886 1	4.571 2	4.313 8	3.916 4	3.501 7	3.062 6	2.782 1	2.585 0	2.322 6	2.153 0	2.032 7	1.904 6	1.765 4	1.559 4	1.387 6	1.234 8	
7,500	20.867 7	12.226 0	9.128 8	7.502 6	6.488 3	5.789 6	5.276 0	4.880 7	4.566 0	4.308 7	3.911 6	3.497 2	3.058 2	2.777 8	2.580 8	2.318 4	2.148 7	2.028 4	1.900 2	1.760 9	1.554 4	1.382 7	1.226 7	
10,000	20.860 1	12.222 0	9.124 8	7.499 1	6.485 1	5.786 6	5.273 2	4.878 0	4.563 4	4.306 2	3.909 2	3.494 9	3.056 0	2.775 7	2.578 7	2.316 3	2.146 6	2.026 3	1.898 1	1.758 6	1.551 9	1.378 7	1.222 6	10,000
	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	50	60	75	100	175	350	1,000	

F_{ν_1,ν_2} .999995

F_{ν_1,ν_2} .999995

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Figure 13.13p. 99.9999*th* PERCENTILES FOR THE *F* DISTRIBUTION [F_{ν_1,ν_2}]

[calculated with *qf* in **R** version 3.3.2 using 17-digit arithmetic; the accuracy of all digits in the table entries has *not* been verified]

Each table entry is the value (y) of the random variable $Y \sim F_{\nu_1,\nu_2}$ such that $\Pr(Y \le y) = 0.999\,999$ (ν_1 is the numerator, ν_2 the denominator, degrees of freedom)

$Df \rightarrow$ / ν_2 / ν_1

ν_2	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	50	60	75	100	175	350	1,000	ν_2
1	405 284 734 545	499 999 999 971	540 379 646 061	562 499 999 967	576 404 955 798	585 937 499 966	592 873 668 821	598 144 531 215	602 284 361 977	605 621 337 855	610 668 182 338	615 764 017 527	620 908 022 648	624 017 177 963	626 099 302 860	628 712 372 532	630 285 719 746	631 336 894 630	632 389 881 125	633 444 670 751	634 803 464 541	635 710 966 051	636 301 542 062	1
2	999 998.5	999 999.0	999 999.2	999 999.2	999 999.3	999 999.3	999 999.4	999 999.4	999 999.4	999 999.4	999 999.4	999 999.4	999 999.4	999 999.5	999 999.5	999 999.5	999 999.5	999 999.5	999 999.5	999 999.5	999 999.5	999 999.5	999 999.5	2
3	16 940.2	14 998.5	14 229.7	13 814.1	13 553.1	13 373.9	13 243.2	13 143.7	13 065.3	13 002.0	12 906.0	12 808.7	12 710.2	12 650.4	12 610.3	12 559.9	12 529.4	12 509.1	12 488.6	12 468.2	12 441.8	12 424.4	12 412.6	3
4	2 446.16	1 998.00	1 824.19	1 730.72	1 672.12	1 631.88	1 602.52	1 580.14	1 562.51	1 548.26	1 526.64	1 504.70	1 482.44	1 468.92	1 459.84	1 448.40	1 441.50	1 436.88	1 432.24	1 427.59	1 421.59	1 417.57	1 414.96	4
5	811.02	625.47	554.59	516.64	492.88	476.57	464.67	455.59	448.43	442.65	433.86	424.94	415.87	410.36	406.65	401.98	399.16	397.27	395.37	393.47	391.01	389.36	388.29	5
6	401.92	297.00	257.37	236.23	223.01	213.94	207.32	202.27	198.28	195.06	190.17	185.19	180.13	177.05	174.97	172.36	170.77	169.71	168.65	167.58	166.20	165.27	164.67	6
7	248.599	177.782	151.266	137.160	128.349	122.302	117.888	114.521	111.864	109.715	106.447	103.123	99.737	97.674	96.284	94.530	93.468	92.756	92.041	91.322	90.393	89.771	89.364	7
8	175.752	122.491	102.683	92.170	85.608	81.106	77.819	75.311	73.332	71.730	69.293	66.813	64.284	62.741	61.701	60.387	59.591	59.057	58.520	57.981	57.283	56.814	56.509	8
9	135.415	92.450	76.556	68.135	62.883	59.281	56.650	54.642	53.058	51.774	49.822	47.832	45.802	44.562	43.726	42.669	42.027	41.597	41.164	40.729	40.165	39.787	39.540	9
10	110.597	74.245	60.855	53.772	49.357	46.328	44.116	42.428	41.095	40.016	38.372	36.696	34.985	33.938	33.232	32.338	31.796	31.431	31.065	30.696	30.218	29.898	29.688	10
11	94.118	62.307	50.631	44.462	40.618	37.982	36.057	34.586	33.425	32.485	31.052	29.591	28.097	27.183	26.565	25.783	25.308	24.988	24.667	24.344	23.924	23.642	23.458	11
12	82.532	54.000	43.558	38.048	34.615	32.261	30.541	29.228	28.191	27.350	26.069	24.762	23.424	22.605	22.051	21.349	20.922	20.635	20.346	20.055	19.677	19.423	19.257	12
13	74.017	47.949	38.432	33.414	30.289	28.146	26.581	25.385	24.440	23.674	22.507	21.315	20.094	19.346	18.839	18.197	17.806	17.543	17.278	17.011	16.665	16.432	16.279	13
14	67.536 2	43.378 0	34.577 1	29.939 9	27.052 7	25.072 9	23.626 4	22.521 2	21.648 0	20.940 0	19.860 5	18.757 3	17.626 4	16.932 6	16.462 7	15.866 5	15.503 4	15.259 1	15.012 7	14.764 2	14.441 5	14.224 2	14.082 0	14
15	62.461 1	39.821 8	31.589 1	27.254 1	24.555 6	22.705 1	21.353 1	20.319 8	19.503 3	18.841 1	17.831 1	16.798 3	15.738 9	15.088 3	14.647 5	14.087 6	13.746 4	13.516 7	13.284 9	13.050	12.747 1	12.542 2	12.408 1	15
16	58.392 7	36.987 3	29.215 5	25.125 4	22.579 9	20.834 3	19.558 7	18.583 7	17.813 1	17.188 0	16.234 3	15.258 6	14.256 9	13.641 3	13.223 9	12.693 4	12.369 9	12.151 9	11.931 9	11.709 7	11.420 8	11.226 0	11.098 3	16
17	55.066 9	34.681 9	27.290 7	23.402 8	20.983 5	19.324 4	18.111 8	17.184 9	16.452 2	15.857 7	14.950 4	14.021 8	13.067 7	12.480 9	12.088 28	11.576 3	11.267 3	11.058 9	10.848 6	10.636 0	10.359 4	10.172 7	10.050 3	17
18	52.302 7	32.774 3	25.702 3	21.983 9	19.670 3	18.083 7	16.924 0	16.037 4	15.336 4	14.767 5	13.899 1	13.009 8	12.095 6	11.532 8	11.150 8	10.664 5	10.367 5	10.167 2	9.964 8	9.760 2	9.493 7	9.313 7	9.195 7	18
19	49.972 4	31.172 7	24.371 8	20.797 4	18.573 6	17.048 5	15.933 7	15.081 3	14.407 2	13.860 1	13.024 6	12.168 8	11.288 3	10.745 9	10.377 5	9.908 2	9.621 4	9.427 8	9.232 1	9.034 2	8.776 3	8.601 9	8.487 5	19
20	47.983 8	29.810 7	23.242 9	19.792 1	17.645 5	16.173 2	15.097 0	14.273 9	13.622 9	13.094 5	12.287 4	11.460 1	10.608 6	10.083 7	9.726 9	9.272 1	8.994 0	8.806 1	8.616 2	8.424 0	8.173 3	8.003 7	7.892 3	20
22	44.774 6	27.623 1	21.434 7	18.185 1	16.163 9	14.777 7	13.764 1	12.988 8	12.375 4	11.877 3	11.116 2	10.335 4	9.530 9	9.034 2	8.696 3	8.264 9	8.000 8	7.822 2	7.641 4	7.458 3	7.219 1	7.057 0	6.950 5	22
24	42.302 8	25.947 3	20.054 1	16.961 0	15.037 3	13.717 9	12.753 1	12.014 8	11.430 6	10.956 1	10.230 7	9.486 1	8.717 9	8.243 1	7.919 7	7.506 4	7.253 0	7.081 5	6.907 7	6.731 4	6.500 9	6.344 5	6.241 5	24
26	40.344 1	24.625 5	18.968 1	16.000 0	14.154 3	12.888 2	11.962 2	11.253 6	10.692 7	10.237 0	9.540 1	8.824 3	8.085 0	7.627 6	7.315 7	6.916 7	6.671 6	6.505 6	6.337 3	6.166 4	5.942 5	5.790 4	5.690 1	26
28	38.755 8	23.557 7	18.093 1	15.226 9	13.444 8	12.222 3	11.328 1	10.643 6	10.101 7	9.661 3	8.987 7	8.295 3	7.579 6	7.136 2	6.833 6	6.446 1	6.207 9	6.046 3	5.882 3	5.715 6	5.497 0	5.348 2	5.250 0	28
30	37.443 1	22.678 3	17.373 8	14.592 4	12.863 2	11.676 9	10.809 0	10.144 6	9.618 5	9.190 8	8.536 5	7.863 5	7.167 3	6.735 6	6.440 7	6.062 7	5.829 9	5.672 0	5.511 5	5.348 2	5.133 8	4.987 6	4.891 0	30
35	34.984 1	21.038 5	16.036 5	13.415 3	11.785 8	10.667 7	9.849 6	9.223 1	8.726 7	8.323 1	7.705 1	7.068 7	6.409 2	5.999 3	5.718 7	5.358 2	5.135 6	4.984 2	4.830 1	4.672 9	4.465 7	4.324 0	4.230 0	35
40	33.275 1	19.905 2	15.115 5	12.606 5	11.046 9	9.976 8	9.193 5	8.593 5	8.118 0	7.731 2	7.138 6	6.527 8	5.893 8	5.499 0	5.228 3	4.879 7	4.664 0	4.517 0	4.367 0	4.213 7	4.011 0	3.871 7	3.779 1	40
45	32.020 4	19.076 6	14.443 9	12.017 9	10.510 0	9.475 2	8.717 7	8.137 2	7.677 2	7.302 8	6.728 9	6.137 0	5.521 7	5.138 0	4.874 5	4.534 5	4.323 6	4.179 6	4.032 5	3.881 8	3.681 9	3.544 0	3.452 1	45
50	31.060 8	18.445 0	13.933 0	11.570 8	10.102 6	9.095 0	8.357 3	7.791 9	7.343 7	6.978 9	6.419 4	5.841 9	5.241 0	4.865 7	4.607 6	4.274 1	4.066 8	3.925 0	3.779 9	3.631 0	3.432 8	3.295 6	3.203 9	50
60	29.691 0	17.546 8	13.208 1	10.937 6	9.526 4	8.557 9	7.848 5	7.304 8	6.873 5	6.522 4	5.983 5	5.426 7	4.846 2	4.482 9	4.232 5	3.907 9	3.705 5	3.566 6	3.424 1	3.277 2	3.080 7	2.943 8	2.851 7	60
70	28.761 2	16.939 4	12.719 1	10.511 2	9.138 9	8.197 0	7.507 1	6.978 1	6.558 4	6.216 6	5.691 8	5.149 1	4.582 4	4.227 1	3.981 8	3.663 1	3.463 8	3.326 7	3.185 6	3.039 8	2.843 7	2.706 1	2.613 0	70
80	28.089 1	16.501 5	12.367 3	10.204 7	8.860 7	7.938 1	7.262 3	6.744 0	6.332 7	5.997 7	5.483 1	4.950 5	4.393 9	4.044 3	3.802 7	3.488 1	3.290 9	3.154 9	3.014 7	2.869 4	2.673 0	2.534 4	2.440 1	80
90	27.580 8	16.171 0	12.102 1	9.974 0	8.651 4	7.743 5	7.078 4	6.568 2	6.163 2	5.833 3	5.326 5	4.801 7	4.252 6	3.907 3	3.668 4	3.356 8	3.161 1	3.025 9	2.886 3	2.741 1	2.544 1	2.404 3	2.308 6	90
100	27.183 0	15.912 8	11.895 1	9.794 0	8.488 3	7.591 9	6.935 1	6.431 3	6.031 4	5.705 5	5.204 7	4.685 9	4.142 8	3.800 9	3.564 0	3.254 8	3.060 1	2.925 5	2.786 2	2.641 0	2.443 2	2.302 1	2.205 0	100
125	26.486 1	15.461 5	11.533 7	9.480 2	8.204 1	7.327 9	6.685 8	6.193 1	5.802 0	5.483 2	4.993 0	4.484 8	3.952 0	3.616 0	3.382 7	3.077 4	2.884 5	2.750 7	2.611 6	2.466 1	2.266 2	2.121 7	2.021 1	125
150	26.034 8	15.169 8	11.300 6	9.277 9	8.021 0	7.157 9	6.525 4	6.040 0	5.654 6	5.340 4	4.857 1	4.355 8	3.829 7	3.497 4	3.266 4	2.963 4	2.771 6	2.638 1	2.499 1	2.353 0	2.150 9	2.003 4	1.899 4	150
175	25.718 8	14.965 9	11.137 8	9.136 8	7.893 3	7.039 5	6.413 7	5.933 4	5.551 9	5.240 9	4.762 5	4.266 0	3.744 5	3.414 9	3.185 5	2.884 1	2.692 9	2.559 6	2.420 5	2.273 8	2.069 8	1.919 5	1.812 4	175
200	25.485 2	14.815 4	11.017 6	9.032 6	7.799 2	6.952 2	6.331 3	5.854 8	5.476 3	5.167 7	4.692 9	4.199 9	3.681 9	3.354 1	3.125 9	2.825 7	2.634 9	2.501 7	2.362 4	2.215 2	2.009 5	1.856 7	1.748 8	200
250	25.163 0	14.607 9	10.852 2	8.889 4	7.669 7	6.832 1	6.218 1	5.746 8	5.372 5	5.067 1	4.597 2	4.109 2	3.595 9	3.270 8	3.044 1	2.745 4	2.555 2	2.422 0	2.282 4	2.134 3	1.925 7	1.776 7	1.653 8	250
300	24.951 2	14.471 7	10.743 6	8.795 4	7.584 8	6.753 5	6.144 0	5.676 2	5.304 5	5.001 3	4.534 7	4.049 8	3.539 7	3.216 3	2.990 6	2.692 9	2.502 9	2.369 8	2.229 9	2.081 0	1.870 2	1.709 8	1.590 5	300
350	24.801 4	14.375 5	10.667 0	8.729 1	7.524 9	6.698 0	6.091 7	5.626 3	5.256 5	4.954 9	4.490 5	4.008 0	3.500 0	3.177 8	2.952 9	2.655 9	2.466 1	2.332 9	2.192 8	2.043 3	1.830 6	1.667 4	1.544 5	350
400	24.689 9	14.303 9	10.610 0	8.679 8	7.480 4	6.656 7	6.052 8	5.589 2	5.220 9	4.920 4	4.457 7	3.976 9	3.470 6	3.149 3	2.924 8	2.628 3	2.438 6	2.305 4	2.165 1	2.015 1	1.801 0	1.635 4	1.509 3	400
450	24.603 7	14.248 5	10.565 9	8.641 7	7.446 0	6.624 8	6.022 8	5.560 6	5.193 3	4.893 7	4.432 4	3.952 9	3.447 8	3.127 2	2.903 2	2.607 0	2.417 5	2.284 2	2.143 7	1.993 3	1.777 9	1.610 4	1.481 5	450
500	24.534 9	14.204 4	10.530 8	8.611 3	7.418 6	6.599 5	5.998 9	5.537 8	5.171 4	4.872 5	4.412 3	3.933 8	3.429 8	3.109 7	2.886 0	2.590 1	2.400 6	2.267 3	2.126 6	1.975 9	1.759 5	1.590 3	1.458 9	500
600	24.432 4	14.138 6	10.478 4	8.566 1	7.377 8	6.561 6	5.963 3	5.503 8	5.138 8	4.840 9	4.382 3	3.905 4	3.402 8	3.083 5	2.860 3	2.564 9	2.375 4	2.242 1	2.101 2	1.949 9	1.731 8	1.559 8	1.424 2	600
700	24.359 4	14.091 8	10.441 2	8.533 9	7.348 7	6.534 8	5.938 0	5.479 7	5.115 6	4.818 5	4.360 9	3.885 2	3.383 7	3.065 0	2.842 1	2.546 9	2.357 6	2.224 2	2.083 1	1.931 4	1.712 0	1.537 9	1.398 9	700
800	24.304 9	14.056 9	10.413 4	8.509 9	7.327 1	6.514 7	5.919 1	5.461 7	5.098 3	4.801 7	4.345 0	3.870 1	3.369 4	3.051 2	2.828 5	2.533 6	2.344 2	2.210 8	2.069 5	1.917 6	1.697 2	1.521 3	1.379 5	800
900	24.262 7	14.029 8	10.391 9	8.491 3	7.310 3	6.499 2	5.904 4	5.447 8	5.084 9	4.788 7	4.332 7	3.858 4	3.358 3	3.040 4	2.817 9	2.523 2	2.333 9	2.200 4	2.059 0	1.906 8	1.685 6	1.508 4	1.364 1	900
1,000	24.228 9	14.008 1	10.374 7	8.476 4	7.296 9	6.486 8	5.892 8	5.436 6	5.074 2	4.778 4	4.322 9	3.849 1	3.349 5	3.031 9	2.809 5	2.514 9	2.325 6	2.192 1	2.050 6	1.898 2	1.676 4	1.497 9	1.351 6	1,000
2,000	24.077 9	13.911 4	10.297 8	8.411 0	7.237 0	6.431 3	5.840 5	5.386 9	5.026 3	4.732 1	4.278 9	3.807 4	3.310 0	2.993 6	2.772 0	2.477 9	2.288 7	2.155 0	2.013 1	1.859 7	1.634 6	1.450 3	1.292 6	2,000
3,000	24.027 8	13.879 3	10.272 3	8.388 0	7.217 1	6.412 9	5.823 2	5.370 4	5.010 5	4.716 8	4.264 4	3.793 6	3.297 0	2.980 9	2.759 5	2.465 7	2.276 5	2.142 7	2.000 6	1.846 8	1.620 7	1.434 2	1.271 7	3,000
4,000	24.002 8	13.863 3	10.259 6	8.377 0	7.207 2	6.403 8	5.814 6	5.362 2	5.002 6	4.709 1	4.257 1	3.786 8	3.290 5	2.974 6	2.753 3	2.459 6	2.270 4	2.136 6	1.994 4	1.840 4	1.613 7	1.426 0	1.261 0	4,000
5,000	23.987 9	13.853 8	10.252 0	8.370 4	7.201 3	6.398 3	5.809 4	5.357 2	4.997 9	4.704 6	4.252 8	3.782 6	3.286 6	2.970 9	2.749 6	2.455 9	2.266 7	2.132 9	1.990 7	1.836 6	1.609 5	1.421 1	1.254 4	5,000
7,500	23.967 9	13.841 0	10.241 9	8.361 7	7.193 4	6.391 0	5.802 6	5.350 7	4.991 6	4.698 5	4.247 0	3.777 2	3.281 4	2.965 8	2.744 7	2.451 0	2.261 9	2.128 0	1.985 7	1.831 5	1.603 9	1.414 5	1.245 5	7,500
10,000	23.958 0	13.834 6	10.236 8	8.357 3	7.189 5	6.387 3	5.799 1	5.347 4	4.988 4	4.695 4	4.244 1	3.774 4	3.278 8	2.963 3	2.742 2	2.448 6	2.259 4	2.125 6	1.983 3	1.828 9	1.601 1	1.411 2	1.241 0	10,000
	1	2	3	4	5	6	7	8	9	10	12	15	20	25	30	40	50	60	75	100	175	350	1,000	

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