Appendix B

Tables

This appendix contains the Erlang Loss Function Table and the distribution and loss function tables for the standard normal distribution and several Poisson distributions.

Erlang Loss Function Table

The Erlang Loss Function Table contains the probability that a process step consisting of m parallel resources contains m flow units, that is, all m resources are utilized. Interarrival times of flow units (e.g., customers or data packets, etc.) are exponentially distributed with mean a and service times have a mean p (service times do not have to follow an exponential distribution).

Because there is no buffer space, if a flow unit arrives and all m servers are busy, then that arriving flow unit leaves the system unserved (i.e., the flow unit is lost). The columns in the table correspond to the number of resources m and the rows in the table correspond to $r = p/a$; that is, the ratio between the service time and the interarrival time. The following two pages include two tables, one for small values of r and one for larger values of r.

Example: Find the probability $P_m(r)$ that a process step consisting of three parallel resources must deny access to newly arriving units. Flow units arrive one every $a = 3$ minutes with exponential interarrival times and take $p = 2$ minutes to serve. First, define $r = p/a = 2/3 = 0.67$ and find the corresponding row heading. Second, find the column heading for $m = 3$. The intersection of that row with that column is $P_m(r) = 0.0255$.

Note that $P_m(r)$ can be computed directly based on the following formula

$$\text{Probability}\{\text{all } m \text{ servers busy}\} = P_m(r)$$

$$= \frac{\dfrac{r^m}{m!}}{1 + \dfrac{r^1}{1!} + \dfrac{r^2}{2!} + \cdots + \dfrac{r^m}{m!}} \quad \text{(Erlang loss formula)}$$

The exclamation mark (!) in the equation refers to the factorial of an integer number. To compute the factorial of an integer number x, write down all numbers from 1 to x and then multiply them with each other. For example, $4! = 1 \times 2 \times 3 \times 4 = 24$. This calculation can be done with the Excel function FACT(x).

Erlang Loss Table

					m					
r = p / a	1	2	3	4	5	6	7	8	9	10
0.10	0.0909	0.0045	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.20	0.1667	0.0164	0.0011	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.25	0.2000	0.0244	0.0020	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.30	0.2308	0.0335	0.0033	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.33	0.2500	0.0400	0.0044	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.40	0.2857	0.0541	0.0072	0.0007	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
0.50	0.3333	0.0769	0.0127	0.0016	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000
0.60	0.3750	0.1011	0.0198	0.0030	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000
0.67	0.4000	0.1176	0.0255	0.0042	0.0006	0.0001	0.0000	0.0000	0.0000	0.0000
0.70	0.4118	0.1260	0.0286	0.0050	0.0007	0.0001	0.0000	0.0000	0.0000	0.0000
0.75	0.4286	0.1385	0.0335	0.0062	0.0009	0.0001	0.0000	0.0000	0.0000	0.0000
0.80	0.4444	0.1509	0.0387	0.0077	0.0012	0.0002	0.0000	0.0000	0.0000	0.0000
0.90	0.4737	0.1757	0.0501	0.0111	0.0020	0.0003	0.0000	0.0000	0.0000	0.0000
1.00	0.5000	0.2000	0.0625	0.0154	0.0031	0.0005	0.0001	0.0000	0.0000	0.0000
1.10	0.5238	0.2237	0.0758	0.0204	0.0045	0.0008	0.0001	0.0000	0.0000	0.0000
1.20	0.5455	0.2466	0.0898	0.0262	0.0063	0.0012	0.0002	0.0000	0.0000	0.0000
1.25	0.5556	0.2577	0.0970	0.0294	0.0073	0.0015	0.0003	0.0000	0.0000	0.0000
1.30	0.5652	0.2687	0.1043	0.0328	0.0085	0.0018	0.0003	0.0001	0.0000	0.0000
1.33	0.5714	0.2759	0.1092	0.0351	0.0093	0.0021	0.0004	0.0001	0.0000	0.0000
1.40	0.5833	0.2899	0.1192	0.0400	0.0111	0.0026	0.0005	0.0001	0.0000	0.0000
1.50	0.6000	0.3103	0.1343	0.0480	0.0142	0.0035	0.0008	0.0001	0.0000	0.0000
1.60	0.6154	0.3299	0.1496	0.0565	0.0177	0.0047	0.0011	0.0002	0.0000	0.0000
1.67	0.6250	0.3425	0.1598	0.0624	0.0204	0.0056	0.0013	0.0003	0.0001	0.0000
1.70	0.6296	0.3486	0.1650	0.0655	0.0218	0.0061	0.0015	0.0003	0.0001	0.0000
1.75	0.6364	0.3577	0.1726	0.0702	0.0240	0.0069	0.0017	0.0004	0.0001	0.0000
1.80	0.6429	0.3665	0.1803	0.0750	0.0263	0.0078	0.0020	0.0005	0.0001	0.0000
1.90	0.6552	0.3836	0.1955	0.0850	0.0313	0.0098	0.0027	0.0006	0.0001	0.0000
2.00	0.6667	0.4000	0.2105	0.0952	0.0367	0.0121	0.0034	0.0009	0.0002	0.0000
2.10	0.6774	0.4156	0.2254	0.1058	0.0425	0.0147	0.0044	0.0011	0.0003	0.0001
2.20	0.6875	0.4306	0.2400	0.1166	0.0488	0.0176	0.0055	0.0015	0.0004	0.0001
2.25	0.6923	0.4378	0.2472	0.1221	0.0521	0.0192	0.0061	0.0017	0.0004	0.0001
2.30	0.6970	0.4449	0.2543	0.1276	0.0554	0.0208	0.0068	0.0019	0.0005	0.0001
2.33	0.7000	0.4495	0.2591	0.1313	0.0577	0.0220	0.0073	0.0021	0.0005	0.0001
2.40	0.7059	0.4586	0.2684	0.1387	0.0624	0.0244	0.0083	0.0025	0.0007	0.0002
2.50	0.7143	0.4717	0.2822	0.1499	0.0697	0.0282	0.0100	0.0031	0.0009	0.0002
2.60	0.7222	0.4842	0.2956	0.1612	0.0773	0.0324	0.0119	0.0039	0.0011	0.0003
2.67	0.7273	0.4923	0.3044	0.1687	0.0825	0.0354	0.0133	0.0044	0.0013	0.0003
2.70	0.7297	0.4963	0.3087	0.1725	0.0852	0.0369	0.0140	0.0047	0.0014	0.0004
2.75	0.7333	0.5021	0.3152	0.1781	0.0892	0.0393	0.0152	0.0052	0.0016	0.0004
2.80	0.7368	0.5078	0.3215	0.1837	0.0933	0.0417	0.0164	0.0057	0.0018	0.0005
2.90	0.7436	0.5188	0.3340	0.1949	0.1016	0.0468	0.0190	0.0068	0.0022	0.0006
3.00	0.7500	0.5294	0.3462	0.2061	0.1101	0.0522	0.0219	0.0081	0.0027	0.0008
3.10	0.7561	0.5396	0.3580	0.2172	0.1187	0.0578	0.0249	0.0096	0.0033	0.0010
3.20	0.7619	0.5494	0.3695	0.2281	0.1274	0.0636	0.0283	0.0112	0.0040	0.0013
3.25	0.7647	0.5541	0.3751	0.2336	0.1318	0.0666	0.0300	0.0120	0.0043	0.0014
3.30	0.7674	0.5587	0.3807	0.2390	0.1362	0.0697	0.0318	0.0130	0.0047	0.0016
3.33	0.7692	0.5618	0.3843	0.2426	0.1392	0.0718	0.0331	0.0136	0.0050	0.0017
3.40	0.7727	0.5678	0.3915	0.2497	0.1452	0.0760	0.0356	0.0149	0.0056	0.0019
3.50	0.7778	0.5765	0.4021	0.2603	0.1541	0.0825	0.0396	0.0170	0.0066	0.0023
3.60	0.7826	0.5848	0.4124	0.2707	0.1631	0.0891	0.0438	0.0193	0.0077	0.0028
3.67	0.7857	0.5902	0.4191	0.2775	0.1691	0.0937	0.0468	0.0210	0.0085	0.0031
3.70	0.7872	0.5929	0.4224	0.2809	0.1721	0.0960	0.0483	0.0218	0.0089	0.0033
3.75	0.7895	0.5968	0.4273	0.2860	0.1766	0.0994	0.0506	0.0232	0.0096	0.0036
3.80	0.7917	0.6007	0.4321	0.2910	0.1811	0.1029	0.0529	0.0245	0.0102	0.0039
3.90	0.7959	0.6082	0.4415	0.3009	0.1901	0.1100	0.0577	0.0274	0.0117	0.0046
4.00	0.8000	0.6154	0.4507	0.3107	0.1991	0.1172	0.0627	0.0304	0.0133	0.0053

Erlang Loss Table

$r = p / a$					m					
	1	2	3	4	5	6	7	8	9	10
1.0	0.5000	0.2000	0.0625	0.0154	0.0031	0.0005	0.0001	0.0000	0.0000	0.0000
1.5	0.6000	0.3103	0.1343	0.0480	0.0142	0.0035	0.0008	0.0001	0.0000	0.0000
2.0	0.6667	0.4000	0.2105	0.0952	0.0367	0.0121	0.0034	0.0009	0.0002	0.0000
2.5	0.7143	0.4717	0.2822	0.1499	0.0697	0.0282	0.0100	0.0031	0.0009	0.0002
3.0	0.7500	0.5294	0.3462	0.2061	0.1101	0.0522	0.0219	0.0081	0.0027	0.0008
3.5	0.7778	0.5765	0.4021	0.2603	0.1541	0.0825	0.0396	0.0170	0.0066	0.0023
4.0	0.8000	0.6154	0.4507	0.3107	0.1991	0.1172	0.0627	0.0304	0.0133	0.0053
4.5	0.8182	0.6480	0.4929	0.3567	0.2430	0.1542	0.0902	0.0483	0.0236	0.0105
5.0	0.8333	0.6757	0.5297	0.3983	0.2849	0.1918	0.1205	0.0700	0.0375	0.0184
5.5	0.8462	0.6994	0.5618	0.4358	0.3241	0.2290	0.1525	0.0949	0.0548	0.0293
6.0	0.8571	0.7200	0.5902	0.4696	0.3604	0.2649	0.1851	0.1219	0.0751	0.0431
6.5	0.8667	0.7380	0.6152	0.4999	0.3939	0.2991	0.2174	0.1501	0.0978	0.0598
7.0	0.8750	0.7538	0.6375	0.5273	0.4247	0.3313	0.2489	0.1788	0.1221	0.0787
7.5	0.8824	0.7679	0.6575	0.5521	0.4530	0.3615	0.2792	0.2075	0.1474	0.0995
8.0	0.8889	0.7805	0.6755	0.5746	0.4790	0.3898	0.3082	0.2356	0.1731	0.1217
8.5	0.8947	0.7918	0.6917	0.5951	0.5029	0.4160	0.3356	0.2629	0.1989	0.1446
9.0	0.9000	0.8020	0.7064	0.6138	0.5249	0.4405	0.3616	0.2892	0.2243	0.1680
9.5	0.9048	0.8112	0.7198	0.6309	0.5452	0.4633	0.3860	0.3143	0.2491	0.1914
10.0	0.9091	0.8197	0.7321	0.6467	0.5640	0.4845	0.4090	0.3383	0.2732	0.2146
10.5	0.9130	0.8274	0.7433	0.6612	0.5813	0.5043	0.4307	0.3611	0.2964	0.2374
11.0	0.9167	0.8345	0.7537	0.6745	0.5974	0.5227	0.4510	0.3828	0.3187	0.2596
11.5	0.9200	0.8410	0.7633	0.6869	0.6124	0.5400	0.4701	0.4033	0.3400	0.2811
12.0	0.9231	0.8471	0.7721	0.6985	0.6264	0.5561	0.4880	0.4227	0.3604	0.3019
12.5	0.9259	0.8527	0.7804	0.7092	0.6394	0.5712	0.5049	0.4410	0.3799	0.3220
13.0	0.9286	0.8579	0.7880	0.7192	0.6516	0.5854	0.5209	0.4584	0.3984	0.3412
13.5	0.9310	0.8627	0.7952	0.7285	0.6630	0.5987	0.5359	0.4749	0.4160	0.3596
14.0	0.9333	0.8673	0.8019	0.7373	0.6737	0.6112	0.5500	0.4905	0.4328	0.3773
14.5	0.9355	0.8715	0.8081	0.7455	0.6837	0.6230	0.5634	0.5052	0.4487	0.3942
15.0	0.9375	0.8755	0.8140	0.7532	0.6932	0.6341	0.5761	0.5193	0.4639	0.4103
15.5	0.9394	0.8792	0.8196	0.7605	0.7022	0.6446	0.5880	0.5326	0.4784	0.4258
16.0	0.9412	0.8828	0.8248	0.7674	0.7106	0.6546	0.5994	0.5452	0.4922	0.4406
16.5	0.9429	0.8861	0.8297	0.7739	0.7186	0.6640	0.6102	0.5572	0.5053	0.4547
17.0	0.9444	0.8892	0.8344	0.7800	0.7262	0.6729	0.6204	0.5687	0.5179	0.4682
17.5	0.9459	0.8922	0.8388	0.7859	0.7334	0.6814	0.6301	0.5795	0.5298	0.4811
18.0	0.9474	0.8950	0.8430	0.7914	0.7402	0.6895	0.6394	0.5899	0.5413	0.4935
18.5	0.9487	0.8977	0.8470	0.7966	0.7467	0.6972	0.6482	0.5998	0.5522	0.5053
19.0	0.9500	0.9002	0.8508	0.8016	0.7529	0.7045	0.6566	0.6093	0.5626	0.5167
19.5	0.9512	0.9027	0.8544	0.8064	0.7587	0.7115	0.6647	0.6183	0.5726	0.5275
20.0	0.9524	0.9050	0.8578	0.8109	0.7644	0.7181	0.6723	0.6270	0.5822	0.5380
20.5	0.9535	0.9072	0.8611	0.8153	0.7697	0.7245	0.6797	0.6353	0.5913	0.5480
21.0	0.9545	0.9093	0.8642	0.8194	0.7749	0.7306	0.6867	0.6432	0.6001	0.5576
21.5	0.9556	0.9113	0.8672	0.8234	0.7798	0.7364	0.6934	0.6508	0.6086	0.5668
22.0	0.9565	0.9132	0.8701	0.8272	0.7845	0.7420	0.6999	0.6581	0.6167	0.5757
22.5	0.9574	0.9150	0.8728	0.8308	0.7890	0.7474	0.7061	0.6651	0.6244	0.5842
23.0	0.9583	0.9168	0.8754	0.8343	0.7933	0.7525	0.7120	0.6718	0.6319	0.5924
23.5	0.9592	0.9185	0.8780	0.8376	0.7974	0.7575	0.7177	0.6783	0.6391	0.6003
24.0	0.9600	0.9201	0.8804	0.8408	0.8014	0.7622	0.7232	0.6845	0.6461	0.6079
24.5	0.9608	0.9217	0.8827	0.8439	0.8053	0.7668	0.7285	0.6905	0.6527	0.6153
25.0	0.9615	0.9232	0.8850	0.8469	0.8090	0.7712	0.7336	0.6963	0.6592	0.6224
25.5	0.9623	0.9246	0.8871	0.8497	0.8125	0.7754	0.7385	0.7019	0.6654	0.6292
26.0	0.9630	0.9260	0.8892	0.8525	0.8159	0.7795	0.7433	0.7072	0.6714	0.6358
26.5	0.9636	0.9274	0.8912	0.8552	0.8192	0.7835	0.7479	0.7124	0.6772	0.6422
27.0	0.9643	0.9287	0.8931	0.8577	0.8224	0.7873	0.7523	0.7174	0.6828	0.6483
27.5	0.9649	0.9299	0.8950	0.8602	0.8255	0.7910	0.7565	0.7223	0.6882	0.6543
28.0	0.9655	0.9311	0.8968	0.8626	0.8285	0.7945	0.7607	0.7269	0.6934	0.6600
28.5	0.9661	0.9323	0.8985	0.8649	0.8314	0.7979	0.7646	0.7315	0.6985	0.6656
29.0	0.9667	0.9334	0.9002	0.8671	0.8341	0.8013	0.7685	0.7359	0.7034	0.6710
29.5	0.9672	0.9345	0.9019	0.8693	0.8368	0.8045	0.7722	0.7401	0.7081	0.6763
30.0	0.9677	0.9356	0.9034	0.8714	0.8394	0.8076	0.7758	0.7442	0.7127	0.6813
30.5	0.9683	0.9366	0.9050	0.8734	0.8420	0.8106	0.7793	0.7482	0.7172	0.6863
31.0	0.9688	0.9376	0.9064	0.8754	0.8444	0.8135	0.7827	0.7521	0.7215	0.6910
31.5	0.9692	0.9385	0.9079	0.8773	0.8468	0.8164	0.7860	0.7558	0.7257	0.6957
32.0	0.9697	0.9394	0.9093	0.8791	0.8491	0.8191	0.7892	0.7594	0.7297	0.7002

Distribution and Loss Function Tables

The Standard Normal Distribution Function Table contains the probability that the outcome of a standard normal random variable is z or smaller. The table provides z values up to two significant digits. Find the row and column headings that add up to the z value you are looking for. The intersection of that row and column contains the probability you seek, $\Phi(z)$.

Example (1): Find the probability that a standard normal random variable generates an outcome that is $z = -1.54$ or lower. First, find the row heading -1.5. Second, find the column heading -0.04 because $(-1.5) + (-0.04) = -1.54$. The intersection of that row with that column is $\Phi(-1.54) = 0.0618$.

Example (2): Find the probability that a standard normal random variable generates an outcome that is $z = 0.52$ or lower. First, find the row heading 0.5. Second, find the column heading 0.02 because $(0.5) + (0.02) = 0.52$. The intersection of that row with that column is $\Phi(0.52) = 0.6985$.

The Standard Normal Loss Function Table is organized in the same way as the Standard Normal Distribution Function Table.

The Poisson Distribution Function Table provides the probability a Poisson distribution with a given mean (column heading) is S or fewer.

The Poisson Loss Function Table provides the expected amount the outcome of a Poisson distribution with a given mean (column heading) exceeds S.

Example (3): With mean 2.25 and $S = 2$, the loss function of a Poisson distribution is 0.69795: look in the column heading for the mean 2.25 and the row with $S = 2$.

Standard Normal Distribution Function Table, $\Phi(z)$

z	−0.09	−0.08	−0.07	−0.06	−0.05	−0.04	−0.03	−0.02	−0.01	0.00
−4.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
−3.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
−3.8	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
−3.7	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
−3.6	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002
−3.5	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
−3.4	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
−3.3	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0005	0.0005
−3.2	0.0005	0.0005	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006	0.0007	0.0007
−3.1	0.0007	0.0007	0.0008	0.0008	0.0008	0.0008	0.0009	0.0009	0.0009	0.0010
−3.0	0.0010	0.0010	0.0011	0.0011	0.0011	0.0012	0.0012	0.0013	0.0013	0.0013
−2.9	0.0014	0.0014	0.0015	0.0015	0.0016	0.0016	0.0017	0.0018	0.0018	0.0019
−2.8	0.0019	0.0020	0.0021	0.0021	0.0022	0.0023	0.0023	0.0024	0.0025	0.0026
−2.7	0.0026	0.0027	0.0028	0.0029	0.0030	0.0031	0.0032	0.0033	0.0034	0.0035
−2.6	0.0036	0.0037	0.0038	0.0039	0.0040	0.0041	0.0043	0.0044	0.0045	0.0047
−2.5	0.0048	0.0049	0.0051	0.0052	0.0054	0.0055	0.0057	0.0059	0.0060	0.0062
−2.4	0.0064	0.0066	0.0068	0.0069	0.0071	0.0073	0.0075	0.0078	0.0080	0.0082
−2.3	0.0084	0.0087	0.0089	0.0091	0.0094	0.0096	0.0099	0.0102	0.0104	0.0107
−2.2	0.0110	0.0113	0.0116	0.0119	0.0122	0.0125	0.0129	0.0132	0.0136	0.0139
−2.1	0.0143	0.0146	0.0150	0.0154	0.0158	0.0162	0.0166	0.0170	0.0174	0.0179
−2.0	0.0183	0.0188	0.0192	0.0197	0.0202	0.0207	0.0212	0.0217	0.0222	0.0228
−1.9	0.0233	0.0239	0.0244	0.0250	0.0256	0.0262	0.0268	0.0274	0.0281	0.0287
−1.8	0.0294	0.0301	0.0307	0.0314	0.0322	0.0329	0.0336	0.0344	0.0351	0.0359
−1.7	0.0367	0.0375	0.0384	0.0392	0.0401	0.0409	0.0418	0.0427	0.0436	0.0446
−1.6	0.0455	0.0465	0.0475	0.0485	0.0495	0.0505	0.0516	0.0526	0.0537	0.0548
−1.5	0.0559	0.0571	0.0582	0.0594	0.0606	0.0618	0.0630	0.0643	0.0655	0.0668
−1.4	0.0681	0.0694	0.0708	0.0721	0.0735	0.0749	0.0764	0.0778	0.0793	0.0808
−1.3	0.0823	0.0838	0.0853	0.0869	0.0885	0.0901	0.0918	0.0934	0.0951	0.0968
−1.2	0.0985	0.1003	0.1020	0.1038	0.1056	0.1075	0.1093	0.1112	0.1131	0.1151
−1.1	0.1170	0.1190	0.1210	0.1230	0.1251	0.1271	0.1292	0.1314	0.1335	0.1357
−1.0	0.1379	0.1401	0.1423	0.1446	0.1469	0.1492	0.1515	0.1539	0.1562	0.1587
−0.9	0.1611	0.1635	0.1660	0.1685	0.1711	0.1736	0.1762	0.1788	0.1814	0.1841
−0.8	0.1867	0.1894	0.1922	0.1949	0.1977	0.2005	0.2033	0.2061	0.2090	0.2119
−0.7	0.2148	0.2177	0.2206	0.2236	0.2266	0.2296	0.2327	0.2358	0.2389	0.2420
−0.6	0.2451	0.2483	0.2514	0.2546	0.2578	0.2611	0.2643	0.2676	0.2709	0.2743
−0.5	0.2776	0.2810	0.2843	0.2877	0.2912	0.2946	0.2981	0.3015	0.3050	0.3085
−0.4	0.3121	0.3156	0.3192	0.3228	0.3264	0.3300	0.3336	0.3372	0.3409	0.3446
−0.3	0.3483	0.3520	0.3557	0.3594	0.3632	0.3669	0.3707	0.3745	0.3783	0.3821
−0.2	0.3859	0.3897	0.3936	0.3974	0.4013	0.4052	0.4090	0.4129	0.4168	0.4207
−0.1	0.4247	0.4286	0.4325	0.4364	0.4404	0.4443	0.4483	0.4522	0.4562	0.4602
0.0	0.4641	0.4681	0.4721	0.4761	0.4801	0.4840	0.4880	0.4920	0.4960	0.5000

(continued)

Standard Normal Distribution Function Table, Φ (z)   (Concluded)

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.5000	0.5040	0.5080	0.5120	0.5160	0.5199	0.5239	0.5279	0.5319	0.5359
0.1	0.5398	0.5438	0.5478	0.5517	0.5557	0.5596	0.5636	0.5675	0.5714	0.5753
0.2	0.5793	0.5832	0.5871	0.5910	0.5948	0.5987	0.6026	0.6064	0.6103	0.6141
0.3	0.6179	0.6217	0.6255	0.6293	0.6331	0.6368	0.6406	0.6443	0.6480	0.6517
0.4	0.6554	0.6591	0.6628	0.6664	0.6700	0.6736	0.6772	0.6808	0.6844	0.6879
0.5	0.6915	0.6950	0.6985	0.7019	0.7054	0.7088	0.7123	0.7157	0.7190	0.7224
0.6	0.7257	0.7291	0.7324	0.7357	0.7389	0.7422	0.7454	0.7486	0.7517	0.7549
0.7	0.7580	0.7611	0.7642	0.7673	0.7704	0.7734	0.7764	0.7794	0.7823	0.7852
0.8	0.7881	0.7910	0.7939	0.7967	0.7995	0.8023	0.8051	0.8078	0.8106	0.8133
0.9	0.8159	0.8186	0.8212	0.8238	0.8264	0.8289	0.8315	0.8340	0.8365	0.8389
1.0	0.8413	0.8438	0.8461	0.8485	0.8508	0.8531	0.8554	0.8577	0.8599	0.8621
1.1	0.8643	0.8665	0.8686	0.8708	0.8729	0.8749	0.8770	0.8790	0.8810	0.8830
1.2	0.8849	0.8869	0.8888	0.8907	0.8925	0.8944	0.8962	0.8980	0.8997	0.9015
1.3	0.9032	0.9049	0.9066	0.9082	0.9099	0.9115	0.9131	0.9147	0.9162	0.9177
1.4	0.9192	0.9207	0.9222	0.9236	0.9251	0.9265	0.9279	0.9292	0.9306	0.9319
1.5	0.9332	0.9345	0.9357	0.9370	0.9382	0.9394	0.9406	0.9418	0.9429	0.9441
1.6	0.9452	0.9463	0.9474	0.9484	0.9495	0.9505	0.9515	0.9525	0.9535	0.9545
1.7	0.9554	0.9564	0.9573	0.9582	0.9591	0.9599	0.9608	0.9616	0.9625	0.9633
1.8	0.9641	0.9649	0.9656	0.9664	0.9671	0.9678	0.9686	0.9693	0.9699	0.9706
1.9	0.9713	0.9719	0.9726	0.9732	0.9738	0.9744	0.9750	0.9756	0.9761	0.9767
2.0	0.9772	0.9778	0.9783	0.9788	0.9793	0.9798	0.9803	0.9808	0.9812	0.9817
2.1	0.9821	0.9826	0.9830	0.9834	0.9838	0.9842	0.9846	0.9850	0.9854	0.9857
2.2	0.9861	0.9864	0.9868	0.9871	0.9875	0.9878	0.9881	0.9884	0.9887	0.9890
2.3	0.9893	0.9896	0.9898	0.9901	0.9904	0.9906	0.9909	0.9911	0.9913	0.9916
2.4	0.9918	0.9920	0.9922	0.9925	0.9927	0.9929	0.9931	0.9932	0.9934	0.9936
2.5	0.9938	0.9940	0.9941	0.9943	0.9945	0.9946	0.9948	0.9949	0.9951	0.9952
2.6	0.9953	0.9955	0.9956	0.9957	0.9959	0.9960	0.9961	0.9962	0.9963	0.9964
2.7	0.9965	0.9966	0.9967	0.9968	0.9969	0.9970	0.9971	0.9972	0.9973	0.9974
2.8	0.9974	0.9975	0.9976	0.9977	0.9977	0.9978	0.9979	0.9979	0.9980	0.9981
2.9	0.9981	0.9982	0.9982	0.9983	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986
3.0	0.9987	0.9987	0.9987	0.9988	0.9988	0.9989	0.9989	0.9989	0.9990	0.9990
3.1	0.9990	0.9991	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993
3.2	0.9993	0.9993	0.9994	0.9994	0.9994	0.9994	0.9994	0.9995	0.9995	0.9995
3.3	0.9995	0.9995	0.9995	0.9996	0.9996	0.9996	0.9996	0.9996	0.9996	0.9997
3.4	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9998
3.5	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998	0.9998
3.6	0.9998	0.9998	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
3.7	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
3.8	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
3.9	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4.0	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Standard Normal Loss Function Table, $L(z)$

z	−0.09	−0.08	−0.07	−0.06	−0.05	−0.04	−0.03	−0.02	−0.01	0.00
−4.0	4.0900	4.0800	4.0700	4.0600	4.0500	4.0400	4.0300	4.0200	4.0100	4.0000
−3.9	3.9900	3.9800	3.9700	3.9600	3.9500	3.9400	3.9300	3.9200	3.9100	3.9000
−3.8	3.8900	3.8800	3.8700	3.8600	3.8500	3.8400	3.8300	3.8200	3.8100	3.8000
−3.7	3.7900	3.7800	3.7700	3.7600	3.7500	3.7400	3.7300	3.7200	3.7100	3.7000
−3.6	3.6900	3.6800	3.6700	3.6600	3.6500	3.6400	3.6300	3.6200	3.6100	3.6000
−3.5	3.5900	3.5800	3.5700	3.5600	3.5500	3.5400	3.5301	3.5201	3.5101	3.5001
−3.4	3.4901	3.4801	3.4701	3.4601	3.4501	3.4401	3.4301	3.4201	3.4101	3.4001
−3.3	3.3901	3.3801	3.3701	3.3601	3.3501	3.3401	3.3301	3.3201	3.3101	3.3001
−3.2	3.2901	3.2801	3.2701	3.2601	3.2502	3.2402	3.2302	3.2202	3.2102	3.2002
−3.1	3.1902	3.1802	3.1702	3.1602	3.1502	3.1402	3.1302	3.1202	3.1103	3.1003
−3.0	3.0903	3.0803	3.0703	3.0603	3.0503	3.0403	3.0303	3.0204	3.0104	3.0004
−2.9	2.9904	2.9804	2.9704	2.9604	2.9505	2.9405	2.9305	2.9205	2.9105	2.9005
−2.8	2.8906	2.8806	2.8706	2.8606	2.8506	2.8407	2.8307	2.8207	2.8107	2.8008
−2.7	2.7908	2.7808	2.7708	2.7609	2.7509	2.7409	2.7310	2.7210	2.7110	2.7011
−2.6	2.6911	2.6811	2.6712	2.6612	2.6512	2.6413	2.6313	2.6214	2.6114	2.6015
−2.5	2.5915	2.5816	2.5716	2.5617	2.5517	2.5418	2.5318	2.5219	2.5119	2.5020
−2.4	2.4921	2.4821	2.4722	2.4623	2.4523	2.4424	2.4325	2.4226	2.4126	2.4027
−2.3	2.3928	2.3829	2.3730	2.3631	2.3532	2.3433	2.3334	2.3235	2.3136	2.3037
−2.2	2.2938	2.2839	2.2740	2.2641	2.2542	2.2444	2.2345	2.2246	2.2147	2.2049
−2.1	2.1950	2.1852	2.1753	2.1655	2.1556	2.1458	2.1360	2.1261	2.1163	2.1065
−2.0	2.0966	2.0868	2.0770	2.0672	2.0574	2.0476	2.0378	2.0280	2.0183	2.0085
−1.9	1.9987	1.9890	1.9792	1.9694	1.9597	1.9500	1.9402	1.9305	1.9208	1.9111
−1.8	1.9013	1.8916	1.8819	1.8723	1.8626	1.8529	1.8432	1.8336	1.8239	1.8143
−1.7	1.8046	1.7950	1.7854	1.7758	1.7662	1.7566	1.7470	1.7374	1.7278	1.7183
−1.6	1.7087	1.6992	1.6897	1.6801	1.6706	1.6611	1.6516	1.6422	1.6327	1.6232
−1.5	1.6138	1.6044	1.5949	1.5855	1.5761	1.5667	1.5574	1.5480	1.5386	1.5293
−1.4	1.5200	1.5107	1.5014	1.4921	1.4828	1.4736	1.4643	1.4551	1.4459	1.4367
−1.3	1.4275	1.4183	1.4092	1.4000	1.3909	1.3818	1.3727	1.3636	1.3546	1.3455
−1.2	1.3365	1.3275	1.3185	1.3095	1.3006	1.2917	1.2827	1.2738	1.2650	1.2561
−1.1	1.2473	1.2384	1.2296	1.2209	1.2121	1.2034	1.1946	1.1859	1.1773	1.1686
−1.0	1.1600	1.1514	1.1428	1.1342	1.1257	1.1172	1.1087	1.1002	1.0917	1.0833
−0.9	1.0749	1.0665	1.0582	1.0499	1.0416	1.0333	1.0250	1.0168	1.0086	1.0004
−0.8	0.9923	0.9842	0.9761	0.9680	0.9600	0.9520	0.9440	0.9360	0.9281	0.9202
−0.7	0.9123	0.9045	0.8967	0.8889	0.8812	0.8734	0.8658	0.8581	0.8505	0.8429
−0.6	0.8353	0.8278	0.8203	0.8128	0.8054	0.7980	0.7906	0.7833	0.7759	0.7687
−0.5	0.7614	0.7542	0.7471	0.7399	0.7328	0.7257	0.7187	0.7117	0.7047	0.6978
−0.4	0.6909	0.6840	0.6772	0.6704	0.6637	0.6569	0.6503	0.6436	0.6370	0.6304
−0.3	0.6239	0.6174	0.6109	0.6045	0.5981	0.5918	0.5855	0.5792	0.5730	0.5668
−0.2	0.5606	0.5545	0.5484	0.5424	0.5363	0.5304	0.5244	0.5186	0.5127	0.5069
−0.1	0.5011	0.4954	0.4897	0.4840	0.4784	0.4728	0.4673	0.4618	0.4564	0.4509
0.0	0.4456	0.4402	0.4349	0.4297	0.4244	0.4193	0.4141	0.4090	0.4040	0.3989

(continued)

Standard Normal Loss Function Table, $L(z)$ (Concluded)

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.3989	0.3940	0.3890	0.3841	0.3793	0.3744	0.3697	0.3649	0.3602	0.3556
0.1	0.3509	0.3464	0.3418	0.3373	0.3328	0.3284	0.3240	0.3197	0.3154	0.3111
0.2	0.3069	0.3027	0.2986	0.2944	0.2904	0.2863	0.2824	0.2784	0.2745	0.2706
0.3	0.2668	0.2630	0.2592	0.2555	0.2518	0.2481	0.2445	0.2409	0.2374	0.2339
0.4	0.2304	0.2270	0.2236	0.2203	0.2169	0.2137	0.2104	0.2072	0.2040	0.2009
0.5	0.1978	0.1947	0.1917	0.1887	0.1857	0.1828	0.1799	0.1771	0.1742	0.1714
0.6	0.1687	0.1659	0.1633	0.1606	0.1580	0.1554	0.1528	0.1503	0.1478	0.1453
0.7	0.1429	0.1405	0.1381	0.1358	0.1334	0.1312	0.1289	0.1267	0.1245	0.1223
0.8	0.1202	0.1181	0.1160	0.1140	0.1120	0.1100	0.1080	0.1061	0.1042	0.1023
0.9	0.1004	0.0986	0.0968	0.0950	0.0933	0.0916	0.0899	0.0882	0.0865	0.0849
1.0	0.0833	0.0817	0.0802	0.0787	0.0772	0.0757	0.0742	0.0728	0.0714	0.0700
1.1	0.0686	0.0673	0.0659	0.0646	0.0634	0.0621	0.0609	0.0596	0.0584	0.0573
1.2	0.0561	0.0550	0.0538	0.0527	0.0517	0.0506	0.0495	0.0485	0.0475	0.0465
1.3	0.0455	0.0446	0.0436	0.0427	0.0418	0.0409	0.0400	0.0392	0.0383	0.0375
1.4	0.0367	0.0359	0.0351	0.0343	0.0336	0.0328	0.0321	0.0314	0.0307	0.0300
1.5	0.0293	0.0286	0.0280	0.0274	0.0267	0.0261	0.0255	0.0249	0.0244	0.0238
1.6	0.0232	0.0227	0.0222	0.0216	0.0211	0.0206	0.0201	0.0197	0.0192	0.0187
1.7	0.0183	0.0178	0.0174	0.0170	0.0166	0.0162	0.0158	0.0154	0.0150	0.0146
1.8	0.0143	0.0139	0.0136	0.0132	0.0129	0.0126	0.0123	0.0119	0.0116	0.0113
1.9	0.0111	0.0108	0.0105	0.0102	0.0100	0.0097	0.0094	0.0092	0.0090	0.0087
2.0	0.0085	0.0083	0.0080	0.0078	0.0076	0.0074	0.0072	0.0070	0.0068	0.0066
2.1	0.0065	0.0063	0.0061	0.0060	0.0058	0.0056	0.0055	0.0053	0.0052	0.0050
2.2	0.0049	0.0047	0.0046	0.0045	0.0044	0.0042	0.0041	0.0040	0.0039	0.0038
2.3	0.0037	0.0036	0.0035	0.0034	0.0033	0.0032	0.0031	0.0030	0.0029	0.0028
2.4	0.0027	0.0026	0.0026	0.0025	0.0024	0.0023	0.0023	0.0022	0.0021	0.0021
2.5	0.0020	0.0019	0.0019	0.0018	0.0018	0.0017	0.0017	0.0016	0.0016	0.0015
2.6	0.0015	0.0014	0.0014	0.0013	0.0013	0.0012	0.0012	0.0012	0.0011	0.0011
2.7	0.0011	0.0010	0.0010	0.0010	0.0009	0.0009	0.0009	0.0008	0.0008	0.0008
2.8	0.0008	0.0007	0.0007	0.0007	0.0007	0.0006	0.0006	0.0006	0.0006	0.0006
2.9	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0004
3.0	0.0004	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
3.1	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
3.2	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001
3.3	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
3.4	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
3.5	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3.6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3.7	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3.8	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3.9	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Poisson Distribution Function Table

					Mean					
S	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
0	0.95123	0.90484	0.86071	0.81873	0.77880	0.74082	0.70469	0.67032	0.63763	0.60653
1	0.99879	0.99532	0.98981	0.98248	0.97350	0.96306	0.95133	0.93845	0.92456	0.90980
2	0.99998	0.99985	0.99950	0.99885	0.99784	0.99640	0.99449	0.99207	0.98912	0.98561
3	1.00000	1.00000	0.99998	0.99994	0.99987	0.99973	0.99953	0.99922	0.99880	0.99825
4	1.00000	1.00000	1.00000	1.00000	0.99999	0.99998	0.99997	0.99994	0.99989	0.99983
5	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999
6	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

					Mean					
S	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
0	0.57695	0.54881	0.52205	0.49659	0.47237	0.44933	0.42741	0.40657	0.38674	0.36788
1	0.89427	0.87810	0.86138	0.84420	0.82664	0.80879	0.79072	0.77248	0.75414	0.73576
2	0.98154	0.97688	0.97166	0.96586	0.95949	0.95258	0.94512	0.93714	0.92866	0.91970
3	0.99753	0.99664	0.99555	0.99425	0.99271	0.99092	0.98887	0.98654	0.98393	0.98101
4	0.99973	0.99961	0.99944	0.99921	0.99894	0.99859	0.99817	0.99766	0.99705	0.99634
5	0.99998	0.99996	0.99994	0.99991	0.99987	0.99982	0.99975	0.99966	0.99954	0.99941
6	1.00000	1.00000	0.99999	0.99999	0.99999	0.99998	0.99997	0.99996	0.99994	0.99992
7	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999
8	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

					Mean					
S	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50
0	0.28650	0.22313	0.17377	0.13534	0.10540	0.08208	0.06393	0.04979	0.03877	0.03020
1	0.64464	0.55783	0.47788	0.40601	0.34255	0.28730	0.23973	0.19915	0.16479	0.13589
2	0.86847	0.80885	0.74397	0.67668	0.60934	0.54381	0.48146	0.42319	0.36957	0.32085
3	0.96173	0.93436	0.89919	0.85712	0.80943	0.75758	0.70304	0.64723	0.59141	0.53663
4	0.99088	0.98142	0.96710	0.94735	0.92199	0.89118	0.85538	0.81526	0.77165	0.72544
5	0.99816	0.99554	0.99087	0.98344	0.97263	0.95798	0.93916	0.91608	0.88881	0.85761
6	0.99968	0.99907	0.99780	0.99547	0.99163	0.98581	0.97757	0.96649	0.95227	0.93471
7	0.99995	0.99983	0.99953	0.99890	0.99773	0.99575	0.99265	0.98810	0.98174	0.97326
8	0.99999	0.99997	0.99991	0.99976	0.99945	0.99886	0.99784	0.99620	0.99371	0.99013
9	1.00000	1.00000	0.99998	0.99995	0.99988	0.99972	0.99942	0.99890	0.99803	0.99669
10	1.00000	1.00000	1.00000	0.99999	0.99998	0.99994	0.99986	0.99971	0.99944	0.99898
11	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99997	0.99993	0.99985	0.99971
12	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99998	0.99996	0.99992
13	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99998
14	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
15	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

Poisson Distribution Function Table (Concluded)

						Mean						
S	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50
0	0.02352	0.01832	0.01426	0.01111	0.00865	0.00674	0.00525	0.00409	0.00318	0.00248	0.00193	0.00150
1	0.11171	0.09158	0.07489	0.06110	0.04975	0.04043	0.03280	0.02656	0.02148	0.01735	0.01400	0.01128
2	0.27707	0.23810	0.20371	0.17358	0.14735	0.12465	0.10511	0.08838	0.07410	0.06197	0.05170	0.04304
3	0.48377	0.43347	0.38621	0.34230	0.30189	0.26503	0.23167	0.20170	0.17495	0.15120	0.13025	0.11185
4	0.67755	0.62884	0.58012	0.53210	0.48540	0.44049	0.39777	0.35752	0.31991	0.28506	0.25299	0.22367
5	0.82288	0.78513	0.74494	0.70293	0.65973	0.61596	0.57218	0.52892	0.48662	0.44568	0.40640	0.36904
6	0.91372	0.88933	0.86169	0.83105	0.79775	0.76218	0.72479	0.68604	0.64639	0.60630	0.56622	0.52652
7	0.96238	0.94887	0.93257	0.91341	0.89140	0.86663	0.83925	0.80949	0.77762	0.74398	0.70890	0.67276
8	0.98519	0.97864	0.97023	0.95974	0.94701	0.93191	0.91436	0.89436	0.87195	0.84724	0.82038	0.79157
9	0.99469	0.99187	0.98801	0.98291	0.97636	0.96817	0.95817	0.94622	0.93221	0.91608	0.89779	0.87738
10	0.99826	0.99716	0.99557	0.99333	0.99030	0.98630	0.98118	0.97475	0.96686	0.95738	0.94618	0.93316
11	0.99947	0.99908	0.99849	0.99760	0.99632	0.99455	0.99216	0.98901	0.98498	0.97991	0.97367	0.96612
12	0.99985	0.99973	0.99952	0.99919	0.99870	0.99798	0.99696	0.99555	0.99366	0.99117	0.98798	0.98397
13	0.99996	0.99992	0.99986	0.99975	0.99957	0.99930	0.99890	0.99831	0.99749	0.99637	0.99487	0.99290
14	0.99999	0.99998	0.99996	0.99993	0.99987	0.99977	0.99963	0.99940	0.99907	0.99860	0.99794	0.99704
15	1.00000	1.00000	0.99999	0.99998	0.99996	0.99993	0.99988	0.99980	0.99968	0.99949	0.99922	0.99884
16	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998	0.99996	0.99994	0.99989	0.99983	0.99972	0.99957
17	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998	0.99997	0.99994	0.99991	0.99985
18	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998	0.99997	0.99995
19	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998

						Mean						
S	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00	9.25	9.50
0	0.00117	0.00091	0.00071	0.00055	0.00043	0.00034	0.00026	0.00020	0.00016	0.00012	0.00010	0.00007
1	0.00907	0.00730	0.00586	0.00470	0.00377	0.00302	0.00242	0.00193	0.00154	0.00123	0.00099	0.00079
2	0.03575	0.02964	0.02452	0.02026	0.01670	0.01375	0.01131	0.00928	0.00761	0.00623	0.00510	0.00416
3	0.09577	0.08177	0.06963	0.05915	0.05012	0.04238	0.03576	0.03011	0.02530	0.02123	0.01777	0.01486
4	0.19704	0.17299	0.15138	0.13206	0.11487	0.09963	0.08619	0.07436	0.06401	0.05496	0.04709	0.04026
5	0.33377	0.30071	0.26992	0.24144	0.21522	0.19124	0.16939	0.14960	0.13174	0.11569	0.10133	0.08853
6	0.48759	0.44971	0.41316	0.37815	0.34485	0.31337	0.28380	0.25618	0.23051	0.20678	0.18495	0.16495
7	0.63591	0.59871	0.56152	0.52464	0.48837	0.45296	0.41864	0.38560	0.35398	0.32390	0.29544	0.26866
8	0.76106	0.72909	0.69596	0.66197	0.62740	0.59255	0.55770	0.52311	0.48902	0.45565	0.42320	0.39182
9	0.85492	0.83050	0.80427	0.77641	0.74712	0.71662	0.68516	0.65297	0.62031	0.58741	0.55451	0.52183
10	0.91827	0.90148	0.88279	0.86224	0.83990	0.81589	0.79032	0.76336	0.73519	0.70599	0.67597	0.64533
11	0.95715	0.94665	0.93454	0.92076	0.90527	0.88808	0.86919	0.84866	0.82657	0.80301	0.77810	0.75199
12	0.97902	0.97300	0.96581	0.95733	0.94749	0.93620	0.92341	0.90908	0.89320	0.87577	0.85683	0.83643
13	0.99037	0.98719	0.98324	0.97844	0.97266	0.96582	0.95782	0.94859	0.93805	0.92615	0.91285	0.89814
14	0.99585	0.99428	0.99227	0.98974	0.98659	0.98274	0.97810	0.97257	0.96608	0.95853	0.94986	0.94001
15	0.99831	0.99759	0.99664	0.99539	0.99379	0.99177	0.98925	0.98617	0.98243	0.97796	0.97269	0.96653
16	0.99935	0.99904	0.99862	0.99804	0.99728	0.99628	0.99500	0.99339	0.99137	0.98889	0.98588	0.98227
17	0.99976	0.99964	0.99946	0.99921	0.99887	0.99841	0.99779	0.99700	0.99597	0.99468	0.99306	0.99107
18	0.99992	0.99987	0.99980	0.99970	0.99955	0.99935	0.99907	0.99870	0.99821	0.99757	0.99675	0.99572
19	0.99997	0.99996	0.99993	0.99989	0.99983	0.99975	0.99963	0.99947	0.99924	0.99894	0.99855	0.99804
20	0.99999	0.99999	0.99998	0.99996	0.99994	0.99991	0.99986	0.99979	0.99969	0.99956	0.99938	0.99914
21	1.00000	1.00000	0.99999	0.99999	0.99998	0.99997	0.99995	0.99992	0.99988	0.99983	0.99975	0.99964
22	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998	0.99997	0.99996	0.99993	0.99990	0.99985
23	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99998	0.99998	0.99996	0.99994
24	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.99999	0.99999	0.99999	0.99998

Poisson Loss Function Table

	Mean									
S	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50
0	0.05000	0.10000	0.15000	0.20000	0.25000	0.30000	0.35000	0.40000	0.45000	0.50000
1	0.00123	0.00484	0.01071	0.01873	0.02880	0.04082	0.05469	0.07032	0.08763	0.10653
2	0.00002	0.00016	0.00052	0.00121	0.00230	0.00388	0.00602	0.00877	0.01219	0.01633
3	0.00000	0.00000	0.00002	0.00006	0.00014	0.00028	0.00051	0.00084	0.00131	0.00194
4	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00003	0.00007	0.00011	0.00019
5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002
6	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

	Mean									
S	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
0	0.55000	0.60000	0.65000	0.70000	0.75000	0.80000	0.85000	0.90000	0.95000	1.00000
1	0.12695	0.14881	0.17205	0.19659	0.22237	0.24933	0.27741	0.30657	0.33674	0.36788
2	0.02122	0.02691	0.03342	0.04078	0.04901	0.05812	0.06813	0.07905	0.09089	0.10364
3	0.00276	0.00379	0.00508	0.00664	0.00850	0.01070	0.01325	0.01620	0.01955	0.02334
4	0.00029	0.00044	0.00063	0.00089	0.00121	0.00162	0.00212	0.00274	0.00347	0.00435
5	0.00003	0.00004	0.00007	0.00010	0.00015	0.00021	0.00029	0.00039	0.00052	0.00069
6	0.00000	0.00000	0.00001	0.00001	0.00002	0.00002	0.00003	0.00005	0.00007	0.00009
7	0.00000	0.00000	0.00001	0.00001	0.00002	0.00002	0.00003	0.00005	0.00007	0.00009
8	0.00000	0.00000	0.00001	0.00001	0.00001	0.00002	0.00003	0.00004	0.00006	0.00008

	Mean									
S	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50
0	1.25000	1.50000	1.75000	2.00000	2.25000	2.50000	2.75000	3.00000	3.25000	3.50000
1	0.53650	0.72313	0.92377	1.13534	1.35540	1.58208	1.81393	2.04979	2.28877	2.53020
2	0.18114	0.28096	0.40165	0.54134	0.69795	0.86938	1.05366	1.24894	1.45356	1.66609
3	0.04961	0.08980	0.14562	0.21802	0.30729	0.41320	0.53511	0.67213	0.82313	0.98693
4	0.01134	0.02416	0.04481	0.07514	0.11672	0.17077	0.23815	0.31936	0.41454	0.52357
5	0.00221	0.00558	0.01191	0.02249	0.03870	0.06195	0.09353	0.13462	0.18619	0.24901
6	0.00038	0.00113	0.00278	0.00592	0.01134	0.01993	0.03270	0.05070	0.07501	0.10662
7	0.00006	0.00020	0.00058	0.00139	0.00297	0.00574	0.01026	0.01719	0.02728	0.04134
8	0.00001	0.00003	0.00011	0.00029	0.00070	0.00149	0.00292	0.00529	0.00902	0.01460
9	0.00000	0.00000	0.00002	0.00006	0.00015	0.00035	0.00076	0.00149	0.00273	0.00472
10	0.00000	0.00000	0.00000	0.00001	0.00003	0.00008	0.00018	0.00038	0.00076	0.00141
11	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00004	0.00009	0.00020	0.00039
12	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00005	0.00010
13	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002
14	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
15	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Poisson Loss Function Table　(Concluded)

	Mean											
S	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50
0	3.75000	4.00000	4.25000	4.50000	4.75000	5.00000	5.25000	5.50000	5.75000	6.00000	6.25000	6.50000
1	2.77352	3.01832	3.26426	3.51111	3.75865	4.00674	4.25525	4.50409	4.75318	5.00248	5.25193	5.50150
2	1.88523	2.10989	2.33915	2.57221	2.80840	3.04717	3.28804	3.53065	3.77467	4.01983	4.26593	4.51278
3	1.16230	1.34800	1.54286	1.74579	1.95575	2.17182	2.39316	2.61903	2.84877	3.08180	3.31763	3.55582
4	0.64606	0.78147	0.92907	1.08808	1.25763	1.43684	1.62483	1.82073	2.02371	2.23300	2.44788	2.66766
5	0.32361	0.41030	0.50919	0.62019	0.74303	0.87734	1.02260	1.17824	1.34362	1.51806	1.70086	1.89134
6	0.14649	0.19543	0.25413	0.32312	0.40277	0.49330	0.59479	0.70716	0.83024	0.96374	1.10727	1.26038
7	0.06021	0.08476	0.11582	0.15417	0.20052	0.25548	0.31958	0.39320	0.47663	0.57004	0.67348	0.78690
8	0.02259	0.03363	0.04839	0.06758	0.09192	0.12211	0.15882	0.20268	0.25426	0.31402	0.38238	0.45966
9	0.00778	0.01226	0.01861	0.02732	0.03893	0.05402	0.07318	0.09704	0.12620	0.16126	0.20276	0.25123
10	0.00247	0.00413	0.00662	0.01023	0.01529	0.02219	0.03136	0.04326	0.05842	0.07733	0.10056	0.12862
11	0.00073	0.00129	0.00219	0.00356	0.00559	0.00849	0.01253	0.01801	0.02528	0.03471	0.04673	0.06178
12	0.00020	0.00038	0.00067	0.00116	0.00191	0.00304	0.00469	0.00702	0.01026	0.01462	0.02040	0.02790
13	0.00005	0.00010	0.00019	0.00035	0.00061	0.00102	0.00165	0.00257	0.00391	0.00579	0.00838	0.01187
14	0.00001	0.00003	0.00005	0.00010	0.00018	0.00032	0.00054	0.00089	0.00141	0.00217	0.00325	0.00477
15	0.00000	0.00001	0.00001	0.00003	0.00005	0.00010	0.00017	0.00029	0.00048	0.00077	0.00119	0.00181
16	0.00000	0.00000	0.00000	0.00001	0.00001	0.00003	0.00005	0.00009	0.00015	0.00026	0.00042	0.00066
17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00003	0.00005	0.00008	0.00014	0.00022
18	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00002	0.00004	0.00007
19	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00002

	Mean											
S	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00	9.25	9.50
0	6.75000	7.00000	7.25000	7.50000	7.75000	8.00000	8.25000	8.50000	8.75000	9.00000	9.25000	9.50000
1	5.75117	6.00091	6.25071	6.50055	6.75043	7.00034	7.25026	7.50020	7.75016	8.00012	8.25010	8.50007
2	4.76025	5.00821	5.25657	5.50525	5.75420	6.00335	6.25268	6.50214	6.75170	7.00136	7.25108	7.50086
3	3.79599	4.03784	4.28109	4.52551	4.77090	5.01711	5.26399	5.51142	5.75931	6.00759	6.25618	6.50502
4	2.89176	3.11961	3.35072	3.58466	3.82103	4.05949	4.29974	4.54153	4.78462	5.02882	5.27395	5.51988
5	2.08880	2.29260	2.50210	2.71672	2.93589	3.15912	3.38593	3.61589	3.84863	4.08378	4.32105	4.56015
6	1.42257	1.59331	1.77203	1.95815	2.15112	2.35036	2.55532	2.76549	2.98036	3.19947	3.42238	3.64868
7	0.91016	1.04302	1.18519	1.33631	1.49597	1.66373	1.83912	2.02167	2.21087	2.40625	2.60732	2.81362
8	0.54606	0.64173	0.74671	0.86095	0.98434	1.11669	1.25777	1.40726	1.56485	1.73015	1.90277	2.08229
9	0.30712	0.37082	0.44267	0.52292	0.61174	0.70924	0.81546	0.93037	1.05387	1.18580	1.32597	1.47411
10	0.16204	0.20132	0.24694	0.29932	0.35885	0.42586	0.50062	0.58334	0.67418	0.77321	0.88047	0.99594
11	0.08031	0.10280	0.12973	0.16156	0.19876	0.24175	0.29094	0.34671	0.40936	0.47920	0.55644	0.64127
12	0.03746	0.04945	0.06427	0.08232	0.10403	0.12983	0.16013	0.19537	0.23593	0.28221	0.33454	0.39326
13	0.01648	0.02245	0.03007	0.03965	0.05152	0.06603	0.08354	0.10445	0.12913	0.15798	0.19137	0.22968
14	0.00685	0.00964	0.01332	0.01809	0.02418	0.03185	0.04137	0.05304	0.06718	0.08413	0.10422	0.12782
15	0.00270	0.00392	0.00559	0.00783	0.01077	0.01459	0.01947	0.02561	0.03326	0.04266	0.05409	0.06783
16	0.00101	0.00152	0.00223	0.00322	0.00456	0.00636	0.00872	0.01178	0.01569	0.02063	0.02678	0.03436
17	0.00036	0.00056	0.00085	0.00126	0.00184	0.00264	0.00372	0.00517	0.00706	0.00952	0.01266	0.01663
18	0.00012	0.00020	0.00031	0.00047	0.00071	0.00105	0.00152	0.00217	0.00304	0.00420	0.00573	0.00770
19	0.00004	0.00007	0.00011	0.00017	0.00026	0.00040	0.00059	0.00087	0.00125	0.00177	0.00248	0.00342
20	0.00001	0.00002	0.00004	0.00006	0.00009	0.00014	0.00022	0.00033	0.00049	0.00072	0.00103	0.00145
21	0.00000	0.00001	0.00001	0.00002	0.00003	0.00005	0.00008	0.00012	0.00019	0.00028	0.00041	0.00059
22	0.00000	0.00000	0.00000	0.00001	0.00001	0.00002	0.00003	0.00004	0.00007	0.00010	0.00016	0.00023
23	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00001	0.00002	0.00004	0.00006	0.00009
24	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001	0.00002	0.00003