

Mathematik > Wahrscheinlichkeitstabeln > Poissonverteilung

Wahrscheinlichkeitstafel: Poissonverteilung P(3) bis P(4)

Parameter $\lambda = 3, 3.1, 3.2, 3.25, 3.3, 3.4, 3.5, 3.6, 3.7, 3.75, 3.8, 3.9, 4$ als erwartete Ereignishäufigkeit, Zufallsvariable X als bestimmte Anzahl k des Auftretens eines Ereignisses E mit $p(X=k)$, $p(X \leq k)$ (kumuliert), Erwartungswert μ , Standardabweichung σ

P(3)		
k =	p(X=k) =	p(X≤k) =
0	0.04978707	0.04978707
1	0.14936121	0.19914827
2	0.22404181	0.42319008
3	0.22404181	0.64723189
4	0.16803136	0.81526324
5	0.10081881	0.91608206
6	0.05040941	0.96649146
7	0.02160403	0.9880955
8	0.00810151	0.99619701
9	0.0027005	0.99889751
10	0.00081015	0.99970766
11	0.00022095	0.99992861
12	0.00005524	0.99998385
13	0.00001275	0.9999966
14	0.00000273	0.99999933
15	5.5e-7	0.99999988
16	1e-7	0.99999998
17	2e-8	1
18	0	1
...
P(3)		
$\mu = 3$		
$\sigma = 1.732$		

P(3.1)		
k =	p(X=k) =	p(X≤k) =
0	0.0450492	0.0450492
1	0.13965253	0.18470173
2	0.21646142	0.40116315
3	0.2236768	0.62483995
4	0.17334952	0.79818946
5	0.1074767	0.90566617
6	0.05552963	0.96119579
7	0.02459169	0.98578749
8	0.00952928	0.99531677
9	0.00328231	0.99859908
10	0.00101752	0.99961659

11	0.00028675	0.99990335
12	0.00007408	0.99997742
13	0.00001766	0.99999509
14	0.00000391	0.999999
15	8.1e-7	0.99999981
16	1.6e-7	0.99999997
17	3e-8	0.99999999
18	0	1
...
P(3.1)		
$\mu = 3.1$		
$\sigma = 1.761$		

P(3.2)		
k =	p(X=k) =	p(X≤k) =
0	0.0407622	0.0407622
1	0.13043905	0.17120126
2	0.20870248	0.37990374
3	0.22261598	0.60251972
4	0.17809279	0.78061251
5	0.11397938	0.89459189
6	0.060789	0.9553809
7	0.02778926	0.98317016
8	0.0111157	0.99428586
9	0.00395225	0.99823811
10	0.00126472	0.99950283
11	0.00036792	0.99987075
12	0.00009811	0.99996886
13	0.00002415	0.99999301
14	0.00000552	0.99999853
15	0.00000118	0.99999971
16	2.4e-7	0.99999995
17	4e-8	0.99999999
18	1e-8	1
19	0	1
...
P(3.2)		
$\mu = 3.2$		
$\sigma = 1.789$		

P(3.25)		
k =	p(X=k) =	p(X≤k) =
0	0.03877421	0.03877421
1	0.12601618	0.16479038
2	0.20477629	0.36956667

3	0.22184098	0.59140764
4	0.18024579	0.77165344
5	0.11715977	0.8888132
6	0.06346154	0.95227474
7	0.02946429	0.98173903
8	0.01196987	0.99370889
9	0.00432245	0.99803135
10	0.0014048	0.99943614
11	0.00041505	0.9998512
12	0.00011241	0.99996361
13	0.0000281	0.99999171
14	0.00000652	0.99999823
15	0.00000141	0.99999965
16	2.9e-7	0.99999993
17	5e-8	0.99999999
18	1e-8	1
19	0	1
...
P(3.25)		
$\mu = 3.25$		
$\sigma = 1.803$		

P(3.3)		
k =	p(X=k) =	p(X≤k) =
0	0.03688317	0.03688317
1	0.12171445	0.15859762
2	0.20082885	0.35942647
3	0.22091173	0.5803382
4	0.18225218	0.76259038
5	0.12028644	0.88287681
6	0.06615754	0.94903435
7	0.03118855	0.98022291
8	0.01286528	0.99308819
9	0.00471727	0.99780546
10	0.0015567	0.99936216
11	0.00046701	0.99982917
12	0.00012843	0.99995759
13	0.0000326	0.99999019
14	0.00000768	0.99999788
15	0.00000169	0.99999957
16	3.5e-7	0.99999992
17	7e-8	0.99999999
18	1e-8	1
19	0	1
...

P(3.3)	
$\mu =$	3.3
$\sigma =$	1.817

P(3.4)		
k =	p(X=k) =	p(X≤k) =
0	0.03337327	0.03337327
1	0.11346912	0.14684239
2	0.1928975	0.33973989
3	0.21861717	0.55835706
4	0.18582459	0.74418165
5	0.12636072	0.87054237
6	0.07160441	0.94214678
7	0.03477928	0.97692606
8	0.0147812	0.99170726
9	0.00558401	0.99729127
10	0.00189856	0.99918983
11	0.00058683	0.99977666
12	0.00016627	0.99994293
13	0.00004349	0.99998641
14	0.00001056	0.99999697
15	0.00000239	0.99999937
16	5.1e-7	0.99999987
17	1e-7	0.99999998
18	2e-8	1
19	0	1
...

P(3.4)	
$\mu =$	3.4
$\sigma =$	1.844

P(3.5)		
k =	p(X=k) =	p(X≤k) =
0	0.03019738	0.03019738
1	0.10569084	0.13588823
2	0.18495897	0.3208472
3	0.21578547	0.53663267
4	0.18881229	0.72544495
5	0.1321686	0.85761355
6	0.07709835	0.9347119
7	0.03854917	0.97326108
8	0.01686526	0.99012634
9	0.00655871	0.99668506
10	0.00229555	0.99898061
11	0.0007304	0.99971101

12	0.00021303	0.99992404
13	0.00005736	0.9999814
14	0.00001434	0.99999574
15	0.00000335	0.99999908
16	7.3e-7	0.99999981
17	1.5e-7	0.99999996
18	3e-8	0.99999999
19	1e-8	1
20	0	1
...
P(3.5)		
$\mu = 3.5$		
$\sigma = 1.871$		

P(3.6)		
k =	p(X=k) =	p(X≤k) =
0	0.02732372	0.02732372
1	0.0983654	0.12568912
2	0.17705772	0.30274684
3	0.21246927	0.51521611
4	0.19122234	0.70643845
5	0.13768008	0.84411853
6	0.08260805	0.92672658
7	0.04248414	0.96921072
8	0.01911786	0.98832859
9	0.00764715	0.99597573
10	0.00275297	0.99872871
11	0.00090097	0.99962968
12	0.00027029	0.99989997
13	0.00007485	0.99997482
14	0.00001925	0.99999407
15	0.00000462	0.99999869
16	0.00000104	0.99999973
17	2.2e-7	0.99999995
18	4e-8	0.99999999
19	1e-8	1
20	0	1
...
P(3.6)		
$\mu = 3.6$		
$\sigma = 1.897$		

P(3.7)		
k =	p(X=k) =	p(X≤k) =
0	0.02472353	0.02472353
1	0.09147705	0.11620057
2	0.16923254	0.28543311
3	0.20872013	0.49415324
4	0.19306612	0.68721937
5	0.14286893	0.8300883
6	0.08810251	0.9181908
7	0.04656847	0.96475927
8	0.02153792	0.98629719
9	0.00885448	0.99515166
10	0.00327616	0.99842782
11	0.00110198	0.9995298
12	0.00033978	0.99986958
13	0.00009671	0.99996628
14	0.00002556	0.99999184
15	0.0000063	0.99999814
16	0.00000146	0.9999996
17	3.2e-7	0.99999992
18	7e-8	0.99999998
19	1e-8	1
20	0	1
...
P(3.7)		
$\mu = 3.7$		
$\sigma = 1.924$		

P(3.75)		
k =	p(X=k) =	p(X≤k) =
0	0.02351775	0.02351775
1	0.08819155	0.11170929
2	0.16535915	0.27706844
3	0.20669894	0.48376738
4	0.19378025	0.67754764
5	0.14533519	0.82288283
6	0.09083449	0.91371732
7	0.04866134	0.96237866
8	0.02281	0.98518866
9	0.00950417	0.99469283
10	0.00356406	0.99825689
11	0.00121502	0.99947191
12	0.00037969	0.9998516
13	0.00010953	0.99996113
14	0.00002934	0.99999047
15	0.00000733	0.9999978

16	0.00000172	0.99999952
17	3.8e-7	0.9999999
18	8e-8	0.99999998
19	2e-8	1
20	0	1
...
P(3.75)		
$\mu = 3.75$		
$\sigma = 1.936$		

P(3.8)		
k =	p(X=k) =	p(X≤k) =
0	0.02237077	0.02237077
1	0.08500893	0.1073797
2	0.16151697	0.26889668
3	0.20458817	0.47348484
4	0.19435876	0.6678436
5	0.14771266	0.81555626
6	0.09355135	0.9091076
7	0.05078502	0.95989262
8	0.02412288	0.98401551
9	0.01018522	0.99420072
10	0.00387038	0.99807111
11	0.00133704	0.99940815
12	0.0004234	0.99983154
13	0.00012376	0.99995531
14	0.00003359	0.9999889
15	0.00000851	0.99999741
16	0.00000202	0.99999943
17	4.5e-7	0.99999988
18	1e-7	0.99999998
19	2e-8	1
20	0	1
...
P(3.8)		
$\mu = 3.8$		
$\sigma = 1.949$		

P(3.9)		
k =	p(X=k) =	p(X≤k) =
0	0.02024191	0.02024191
1	0.07894345	0.09918537
2	0.15393974	0.2531251
3	0.20012166	0.45324676
4	0.19511862	0.64836538

5	0.15219252	0.8005579
6	0.09892514	0.89948304
7	0.05511543	0.95459847
8	0.02686877	0.98146724
9	0.01164314	0.99311038
10	0.00454082	0.9976512
11	0.00160993	0.99926113
12	0.00052323	0.99978436
13	0.00015697	0.99994132
14	0.00004373	0.99998505
15	0.00001137	0.99999642
16	0.00000277	0.99999919
17	6.4e-7	0.99999983
18	1.4e-7	0.99999996
19	3e-8	0.99999999
20	1e-8	1
21	0	1
...
P(3.9)		
$\mu = 3.9$		
$\sigma = 1.975$		

P(4)		
k =	p(X=k) =	p(X≤k) =
0	0.01831564	0.01831564
1	0.07326256	0.09157819
2	0.14652511	0.23810331
3	0.19536681	0.43347012
4	0.19536681	0.62883694
5	0.15629345	0.78513039
6	0.10419563	0.88932602
7	0.05954036	0.94886638
8	0.02977018	0.97863657
9	0.01323119	0.99186776
10	0.00529248	0.99716023
11	0.00192454	0.99908477
12	0.00064151	0.99972628
13	0.00019739	0.99992367
14	0.0000564	0.99998007
15	0.00001504	0.99999511
16	0.00000376	0.99999887
17	8.8e-7	0.99999975
18	2e-7	0.99999995
19	4e-8	0.99999999

20	1e-8	1
21	0	1
...
P(4)		
$\mu = 4$		
$\sigma = 2$		

Michael Buhlmann, www.michael-buhlmann.de 12.2022