

Homework / Assignment

Basic statistical indices

12.3 The number of I/O requests received at a disk during a unit interval follows a Poisson distribution with the following mass function:

$$f(x) = \lambda^x \frac{e^{-\lambda}}{x!}, \quad x = 0, 1, 2, \dots, \infty$$

Here, λ is a parameter. Determine the mean, variance, and coefficient of variation of the number. Plot the pmf and CDF for $\lambda = 8$.

12.9 How would you summarize an average personal computer configuration:

- a. CPU type
- b. Memory size
- c. Disk type
- d. Number of peripherals
- e. Cost

12.11 The number of disk I/O's performed by a number of programs were measured as follows: {23, 33, 14, 15, 42, 28, 33, 45, 23, 34, 39, 21, 36, 23, 34, 36, 25, 9, 11, 19, 35, 24, 31, 29, 16, 23, 34, 24, 38, 15, 13, 35, 28}. Which index of central tendency would you choose and why?

12.15 Plot a normal quantile-quantile plot for the following sample of errors:

-0.04444	-0.04439	-0.04165	-0.03268	-0.03235	-0.03182	0.02771	0.02650
-0.02569	-0.02358	0.02330	0.02305	0.02213	0.02128	0.01793	0.01668
-0.01565	-0.01509	0.01432	0.00978	0.00889	0.00687	0.00543	0.00084
-0.00083	-0.00048	0.00024	0.00079	0.00082	0.00106	0.00110	0.00132
0.00162	0.00181	0.00280	0.00379	0.00411	0.00424	0.00553	0.00865
0.01026	0.01085	0.01440	0.01562	0.01975	0.01996	0.02016	0.02078
0.02134	0.02252	0.02414	0.02568	0.02682	0.02855	0.02889	0.03072
0.03259	0.03754	0.04263	0.04276				

Are the errors normally distributed?