

Notes for Lecture 24

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Today, I did a simple (but hopefully instructive) example involving the Poisson process. The example is just this: suppose the number of calls received by a customer call center between hours s and t is $N(t) - N(s)$, where $N(t)$ is a Poisson process with rate $\lambda > 0$.

- 1) What are the mean and variance of the number of calls received between 8a and 5p?
- 2) If the call center closes for lunch from 12p to 1p, what is the expected number of calls? What is the variance?

The solution is a straightforward application of the properties of the Poisson process.

I then introduced the *compound Poisson process*. This part of the lecture follows the text rather closely.