

# Welcome Tutorial :-)

## Tutorial 2

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## Tutorial 3

1. Let  $x_1, x_2, \dots, x_n$  be  $n$  independent samples from the identical Poisson distribution with parameter  $\lambda$ , (i.e.,  $P(X = k) = \frac{\lambda^k e^{-\lambda}}{k!}$ ). Please find the maximum likelihood estimation (MLE) for parameter  $\lambda$ .
2. A sample of size 36 is taken from a population with unknown mean  $\mu$  and standard deviation  $\sigma = 3$ . In a test of  $H_0: \mu = 5$  versus  $H_1: \mu \neq 5$  at significance level 0.05. Please write down the critical region when we reject hypothesis  $H_0$  (note that  $P(|X| > 1.96) \approx 0.05$  if  $X \sim N(0, 1)$ ).
3. Stock prices  $Y$ , are assumed to be affected by the annual rate of dividend of stock  $X$ . A simple linear regression analysis was performed on 20 observations and the results were:

| Variable  | Estimation | Std. Error | T-value | $P[ \cdot  > t]$ |
|-----------|------------|------------|---------|------------------|
| INTERCEPT | -7.964     | 3.111      | -2.560  | 0.0166           |
| X         | 12.548     | 1.270      | 9.874   | 0.0001           |

How to understand the analysis result given by R.