

Consider N i.i.d. samples drawn from a Poisson distribution. The PMF is defined as follows:

$$Poisson(x|\lambda) = e^{-\lambda} \frac{\lambda^x}{x!} \text{ for } x \in \{0, 1, 2, \dots\} \text{ where } \lambda > 0 \text{ is the rate parameter.}$$

Find λ_{MLE} .

Show your work.