$$\prod_{i=1}^{n} p^{x_i}(1-p)^{1-x_i} = p^{\sum x_i}(1-p)^{n-\sum x_i}$$

$$\ln(L(p)) = \sum x_i \ln(p) + (n-\sum x_i)\ln(1-p)$$

$$\frac{d \ln(L(p))}{dp} = \frac{\sum x_i}{p} - \frac{n-\sum x_i}{1-p} = 0$$

$$\Leftrightarrow \frac{(1-p)\sum x_i}{p} + \sum x_i - n = 0$$

$$\Leftrightarrow \frac{\sum x_i}{p} - \sum x_i + \sum x_i - n = 0$$

$$\Leftrightarrow \boxed{p = \frac{\sum x_i}{n}}$$

$$\prod_{i=1}^{n} \frac{1}{\sigma\sqrt{2\pi}} \exp\left[-\frac{(x_i-\mu)^2}{2\sigma^2}\right] = \frac{1}{\sigma^n (2\pi)^{n/2}} \exp\left[-\sum \frac{(x_i-\mu)^2}{2\sigma^2}\right]$$

$$\ln(L(\mu)) = K - \sum \frac{(x_i-\mu)^2}{2\sigma^2}$$

$$\frac{d\ln(L(\mu))}{d\mu} = \sum \frac{(x_i-\mu)}{\sigma^2} = 0$$

$$\Longleftrightarrow \sum x_i - n\mu = 0$$

$$\Longleftrightarrow \boxed{\mu = \frac{\sum x_i}{n}}$$

$$\prod_{i=1}^{n} \frac{\lambda^{x_i} e^{-\lambda}}{x_i!} = \frac{\lambda^{\sum x_i} e^{-n\lambda}}{\prod_{i=1} x_i!}$$

$$\ln(L(\lambda)) = \sum x_i \ln(\lambda) - n\lambda - K$$

$$\frac{d\ln(L(\lambda))}{d\lambda} = \frac{\sum x_i}{\lambda} - n = 0$$

$$\Leftrightarrow \boxed{\lambda = \frac{\sum x_i}{n}}$$