Summary

- Poisson distribution is discovered by the French Mathematician and physicist Siemeon Denis Poisson (1781-1840) who published it in 1837. Poisson distribution is limiting case of binomial distribution under the following conditions
    - n, the number of trials is indefinitely large, that is $n \to \infty$(read as n tends to infinity)
    - P, the constant probability of success for each trial is indefinitely small, that is $p \to 0$.
    - $np = \lambda$, (say), is finite. Thus $p = \lambda/n$, $q = 1 - \lambda/n$, where λ is a positive real number.

- Here we have found first four raw and central moments. Observe that for Poisson distribution and variance are equal and nothing but the value of the parameter

- Poisson distribution is positively skewed and has leptokurtic curve

- In Poisson distribution, all the Cumulants are equal and are nothing but the parameter

- Sum of n independent Poisson variates is also a Poisson variate

- Binomial distribution has single modal value if λ is not an integer and is given by integer part of λ and if λ is an integer, then the distribution has two modal values λ and $\lambda - 1$

- Conditional distribution of X/X+Y is binomial if X and Y are independent Poisson variates