DSD - CO2 - 2024-08-09 - Apply Data and Sampling Distribution Techniques

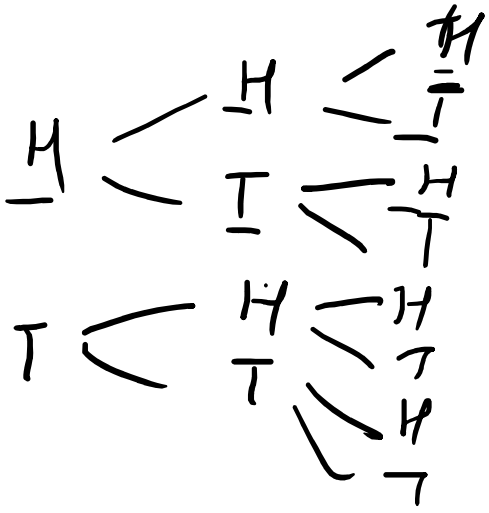
09 August 2024 09:55

-> Poisson Distribution : (Randomness)

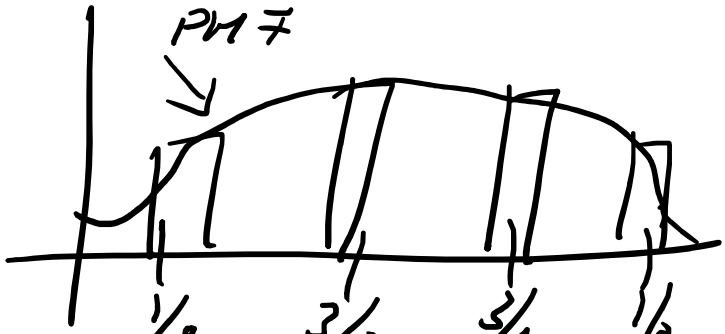
-> No. of car accidents in a day.

-> No. of tulips in a square metre plot of land.

-> Random Variables :



{ HHH, HHT, HTH, HTT, THH, THT, TTH, TTT }



$2^n = 2^3 = 8$

$\left[\frac{1}{8}, \frac{3}{8}, \frac{3}{8}, \frac{1}{8}\right]$

$X = x = 1 : 1/8$

$x = 2 = 3/8$ $x = 4 = 1/8$

$x = 3 = 3/8$

→ The distribution is Probability Mass Function

→ The Poisson PMF

$$P(X = x) = \frac{\lambda^x \cdot e^{-\lambda}}{x!}$$

For $x = 0, 1, 2 \ldots \ldots n$

$\mu = \lambda$ & $\sigma^2 = \lambda$ & only $\sigma = \sqrt{\lambda}$