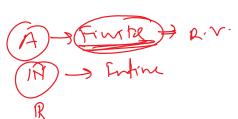
K19FG-19+20-FEB

Friday, February 19, 2021





Finthe - Drycnette => B.D. Entforthe - Drytn => f.D. Enforte - Continung => N.D.

Normal Distribution -> Discrete type

Poisson protosbution -> Discrete type

Normal Distribution -> Continues tope

Noty:- n 15 Finite In B.D. X

n->0 In p.D. X

n-1R or (a.b), [a1b]

= = = =

Binomal Oistribution :- $a+b = a^2+2ab+b^2$

(a+b) = " (ab" + h (ab" + h (2 a b b + - - -

+ "crab" + - - + "cnab"

$(1+\pi)^{h} = 1+ \eta x + \frac{\eta (n-1)}{a_{1}} x^{2} + \frac{\eta (n-1)(n-2)}{3!} x^{2}_{+--}$

A $\tau \cdot v \cdot \times ls$ Called follow the Binomial drawbutten if it has only non-negative values and probability defined by $p(n) = P(x=n) = \begin{cases} h_{(x)} p^n q^{n-n}, & n=0,1,2,3--h \\ 0 & \text{other wise} \end{cases}$

Moter? — Of the event is repeated by N times

then par = N. haparan-a

Note: In B.D. nis finity

or of the probability of getting the heads at least 7 times.

Soly: n=10 $p=\frac{1}{2}$ $p=\frac{1}{2}$

P(X > 7,7) = P(X = 7) + P(X = 8) + P(X = 9) + P(X = 10) $P(X = 7,7) = h_{(x)} p^{x} q^{h-x}$ $P(X = 7) = 10 c_{7} (\frac{1}{2})^{7} (\frac{1}{2})^{7}$

Similarly P(X=8) = P(X=9) =

$$P(X>7) = {}^{10}(7) \left(\frac{1}{2}\right)^{7} \left(\frac{1}{2}\right)^{7} + {}^{10}(8) \left(\frac{1}{2}\right)^{8} \left(\frac{1}{2}\right)^{2} + {}^{10}(8) \left(\frac{1}{2}\right)^{10} + {}^{10}(8) \left(\frac{1}{2}\right)^{1$$

moment of Binomial Distribution:

moment =
$$M_1' = E(X)$$
 $M_2' = E(X^2)$
 $M_3' = E(X^3)$
 $M_3' = E(X^3)$
 $M_3' = E(X^3)$
 $E(X^2) = \sum_{x} x^x fon_y$
 $E(X^2) = \sum_{x} x^x fon_y$

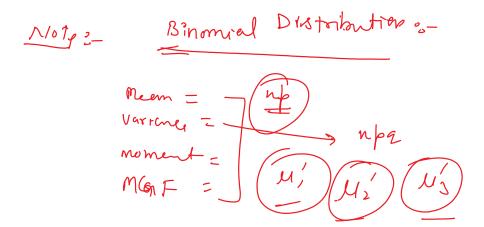
$$U_1' = np$$

$$U_2' = n(n-1) p^2 + np$$

$$\frac{E(x^2) = \sum_{x} x^2 f(x)}{= \sum_{x} x^2 \cdot h_x f^x q^{h-y}}$$

(1) (13) mean = varrante (iii)

MI above are Consent



EX 8:11 If mean = 3 and variable = 4 then find the conclusion.

De: Select the correct of tra for Mand V

(1) 3 and 4
$$\times$$

(1) -3 and -4 \times

Variance = -2 > 0

(1) -4 and 3

(1) \times

(1) \times

(1) \times

(1) \times

(1) \times

(1) \times

(2) \times

(3) \times

(4) and 3

$$=) 12 = \frac{1}{3} =) p = 1 - 2 = \frac{2}{3} =) p - \frac{2}{3}$$

From (1) We get
$$hp = 4 \implies h \cdot 2 = 4 \implies [h-6]$$

"
$$P(x=n) = \frac{h}{n} p^n q^{h-n}$$

$$f(x \ge 1) = 1 - f(x = 0)$$

$$= 1 - {}^{6}C_{0} p^{\circ} q^{6} = 1 - \left(\frac{1}{3}\right)^{6} - 1 - \frac{1}{3^{4}}$$

$$= 1 - \frac{1}{729} = 0.998$$

$$\int P(x>1) = 0.998$$

Moment Generating Function of 13.00 in $M_X(t) = E(e^{tX}) = \sum_{n=0}^{n} e^{tx} n_{(n)} p^n q^{n-x} = (q+pe^t)^n$

$$\int_{x_0}^{x_0} \left(\frac{1}{x_0} + \frac{1}{x_0} + \frac{1}{x_0} \right)$$

$$\int_{-\infty}^{\infty} M_{x}(t) = \left(2 + \beta e^{t}\right)^{n}$$

Poisson Distribution:

$$\begin{array}{ccc} (i) & h \longrightarrow \infty \\ (i) & h \longrightarrow 0 \end{array}$$

The probability Function of P.D. is defined by
$$P(x,\lambda) = P(X=x) = \frac{1}{2} \frac{\lambda^{2}}{x_{1}}, \quad x=0, 1, 2, 3, \dots = \infty$$

Distribution Function of Poission Distribution in $F(a) = P(X \le a) = Sum of Province Probability$

$$\int F(x) = P(X \leq x) = \sum_{r=0}^{\infty} e^{\lambda} \frac{\lambda^r}{r!}$$

It is Poisson Distribution Function

moment of Poisson Distribution s-

$$\mu'_{i} = E(x) = \sum_{n} x_{i} f(n) = \sum_{n} x_{i} e^{\lambda} \frac{\lambda^{n}}{x_{i}!} = \lambda$$

Mean of P.D. =
$$\lambda$$

Again $M_2' = E(x^2) = \sum_{x} x^2 f(x) = \sum_{x} x^2 e^{\lambda} \frac{\lambda^k}{x!} = \lambda^2 + \lambda$

Moriance of P.D. = $M_2' - (M_1')^2 = \lambda$

Variance of P.D. = Mean = λ

Also $M_3' = \lambda^3 + 3\lambda^2 + \lambda$

$$\int M_4' = \lambda^4 + 6\lambda^3 + 7\lambda^2 + \lambda$$

Moment Generating Function of P.D. in
$$M_X(t) = E(e^{tX}) = \sum_{i=1}^{t} e^{tX_i} e^{tX_i} = e^{\lambda(e^t - 1)}$$

$$M_X(t) = e^{\lambda(e^t - 1)}$$

$$M_X(t) = e^{\lambda(e^t - 1)}$$

Mode of Poisson Distribution :

(I) It is not integer then Integral Port of its

(I) If I is integer than I and (1-1) are two modes