PRIYAL CINGILA 102103274 30010

Normal distribution (xi-µ)²
PMF (xi) = 1 e (xi-µ)²
\[
\sqrt{2\pi \sqrt{2\ $\mu = 0$, $6^{\frac{1}{2}} = 0$, $e^{-\frac{(\pi i - \mu)^2}{26^2}}$

 $f(x_i|\theta_1,\theta_2) = \frac{1}{\sqrt{2\pi\theta_2}} - \frac{(x_i-\theta_1)^2}{2\theta_2}$

likelihood function, $L(0, 0_2) = \prod_{i=1}^{n} \beta(x_i | 0_{i, 0_2})$

 $(0,02) = \frac{\pi}{11} \frac{1}{\sqrt{2\pi 0_2}} e^{-(\pi i - 0_1)}$

 $L(0,0) = \prod_{i=1}^{n} (0)^{i} \prod_{i=1}^{n} (2\pi)^{i} \prod_{i=1}^{n} e^{-(x_{i}-x_{i})^{2}}$

L(0,02) = (02) 1/2 (27) 1/2 0 - 202 = (xi-0i)2

 $\ln\left(10,902\right) = \ln\left(02\right)^{-m/2} (2\pi)^{-m/2} e^{\frac{1}{20}2\frac{\pi}{64}} (\pi - 01)^{2}$

= - 1 ln0, - 1 ln211 - 1 20, 21 (4: 0,) 2

differentiate w.r.t. o.

2010,0) = 1 = (xi-0,)

Now, delo,,02) 0

 $\frac{1}{2} \sum_{i=1}^{N} (x_i - 0_i) = 0$

 $\frac{1}{2}\left(\sum_{i=1}^{n}x_{i}-n\theta_{i}\right)=0$

5 m; - n0, = 0

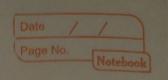
=) 0,= 7(1)

.. Oince = M

differentiating 1 w. r. t &,

 $\frac{32(0,0_{2})}{30_{2}} = \frac{-1}{20_{2}} = \frac{2(0_{1})^{2}}{2(0_{1})^{2}} = \frac{2(0_{1})^{2}}{2(0_{1})^{2}}$

now 3l (0,02) 0



$$\frac{1}{202} = \frac{1}{202} \times \frac{1}{12} \left(\frac{1}{12} - \frac{1}{12} \right)^2 = 0$$

$$\frac{1}{2(02)^2} \times \frac{1}{12} \left(\frac{1}{12} - \frac{1}{12} \right)^2 = \frac{-1}{202}$$

$$\frac{1}{202} \times \frac{1}{12} \times \frac{1}{$$

From equation (2),

for binomial distribution,

