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Parameter Estimation
Let $(x_1, x_2,)$ be random sample of size n taken from normal population with parameter mean = θ_1 and Variance θ_2 . Find the max likelihood estimate of these two population parameter. $f(x) = \frac{1}{\sqrt{2\pi}\sigma^2}$
$(x_1, x_2, \dots, x_n) \ge f(x_1)$, $f(x_2)$. $f(x_n)$
$= \left(\frac{1}{2\sigma^2} e^{-\frac{(x_1 \cdot y_1)^2}{2\sigma^2}} \right) \cdot \left(\frac{1}{2\pi\sigma^2} e^{-\frac{(x_1 \cdot y_1)^2}{2\sigma^2}} \right).$
Taking In on both sides we get,
$\ln(L)$: $-\frac{n}{2}$ $\ln(2\pi\sigma^2)$: $\frac{\epsilon}{\epsilon}$ $\left(\frac{(x_i-\mu)^2}{2\tau^2}\right)$
Taking derivative ext. 4
$\frac{\partial \ln U}{\partial u} = 0 + \frac{\varepsilon}{\varepsilon} - \frac{(2/xi - \mu)}{2\sigma^2}$
= \(\hat{\ti} \left(\pi_i - \lambda \right)^2 U
= n x -nu = v
7 - U
Mence Di= x v.e. sample mean

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	ln (1) = -n ln (27 02) + & (vi - 11)2	
	Taking derivative w.r.t 02	
-	taking even volute W. r. r	
	8 (m/U) = -n + E - (xi-m)2 = 0	
	J 02 (02)	
	h / 1 1 2 2	
	$-n+\frac{h}{2}-\frac{(x_1-\mu)^2}{\sigma^2}>0$	67
	n 2 & (x; th)2	
	r 2 = 1 & (xi-4) L	
	Hence $\theta_{1} = \frac{1}{n} \mathcal{E} (x_i - \mu)^2$	
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(د	Let X1, X2, Xn be roundom sample from B (m, d)
	all by button where of the contraction
	+ We integer Compute value of Dusing M.L.E.
	Biromial Distribution = n(x, 8x, (1-8)n-ni
	L= 1 n(x, 0 x, (1-10)n-ni
	log on both sides
	log L. £ (log ("Cx,) + log (xi + log (1-0)")
	logl = E log ("(xi) + log & E xi + log(1-0) & (n-xi)
	Diff- w.r.t 0
	∂ log(1) = 0
	23 1 Ex; -1 5 (p-xi) = 0
	$\frac{2}{9} \frac{1}{1-0} \frac{1}{1-0} \frac{1}{1-0} \frac{1}{1-0} \frac{1}{1-0} \frac{1}{1-0} \frac{1}{1-0} \frac{1}{1-0}$
	$\frac{1}{2} > \frac{1}{0(1-0)} = \frac{n^2}{1-0}$
	$ \frac{2}{9} \frac{1}{1-0} = \frac{1}{1-0} = \frac{1}{1-0} $ $ \frac{2}{1-0} = \frac{1}{1-0} = \frac{1}{1-0} $ $ \frac{2}{1-0} = \frac{1}{1-0} = \frac{1}{1-0} $ $ \frac{2}{1-0} = \frac{1}{1-0} $
	2) Eni 2 n² O = Eni n²
	D= ENI
	N- I