	Date
	Name - Deefak
	N Company of the Comp
	JJT2021182
- Q.	Suppose that X X2 X2 Form a random
	Sample from distribution for which the P.d.f. $f(X/0)$ is follows.
	$f(x/\theta) = \begin{cases} \theta x^{\theta-1} & \text{for } 0 < x < 1 \end{cases}$
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	Also subject that the walks of the
	Also suppose that the value of 0 is unknown (0>0). Find MIE of 0.
Soln	
201	(et $L(\theta) = \frac{h}{1} \theta x_i^{-1} = \theta^h \frac{h}{1} x_i^{0-1}$
	Taking log both side
	$log(L(0)) = nlog 0 + (0-1) ln(\pi xi)$
i.	diss. both side w.r.t. 0
	$\frac{1}{L(0)} L'(0) = \frac{M}{0} + ln(\frac{M}{1-1}x_i)$
	Fox maximizing we know L'(0) = 0
	$=) \frac{h}{A} + \ln\left(\frac{\pi}{\pi} x_i\right) = 0$
	$O = -n/+ ln(\pi x_i)$

	Date Date log x;
	Os is the critical point of L. For O < 00 ln (L) is incresing of for 0 > 00 ln (L) is decresing. Thus Os is global maximum 4. The MLE of 0
	$MLE of O is O = \sum_{i=1}^{n} ln(x_i) $
	(1-3) + 3 pol (6 - ((3)1) pol
, s	(,ef),00 p = (0); 1 (0); (0); (0); (0); (0); (0); (0); (0);
	The state of the s