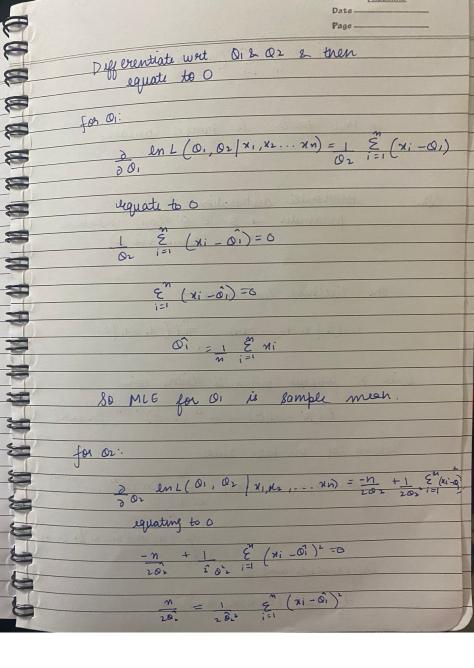
Assignment Name: Sakshi Goyal Roll No: 102103451 Mass: 3 coe 17 (Normal Distribution) Q1. mean = 01. variance = 02 man likelihood estimate? The likelihood function is: L (01,02 | x1, x2... xn) = Ti=1 yake log on both sides  $\ln L(0, 0) | x, x_2 ... x_n = -n \ln (2\pi 0) - \frac{2\pi 0}{2}$ 



02 = 1 & (Ni - O1) -SO MLE for or is sample vacciance Da. Bernoulli distribution parameter -> 0 E 0 = (0,1) unknown -> m (known + ve Z) You likelihood function is > L (0 | x1 x2 ... xn) = TP (x1 = x; (0) Since Xi follows bernoulli distribution, P(Xi = XI 0) = 0 xi (1-0) m-ni for each i Yaking log on both sides en L(0|x1,x2...xn) = & ln (0xi (1-0) m-41) = En (n1 molm-ni) (1-0) Differentiate west 0 d (en l (0 (x1, x2, ... x m)) = 0

