SUVIL 8 INGH 102117209 _/_/ 3658 PARAMETER PESTIMATION. 0) Let (x1, x2, ... xm) de a mandoire sample of size 'v' taken from a ware nomal population w/ parlameters of Varianc = 02, Find man. likelihood cestimates of these parameters. MLE(OI) = joint pay (71.,72,...2110) Mce (Bz)= joint. pody (21,22,...2m102) MLE(01,02) = 11 1 e - (01-01)2 4:1/2102 rape logarithm um doth sides. In (0,00) = = (-In(trooz) - (210)2 In(e)] = - non (froz) - & 212 - 40,2 +0,27; Oz V Oz 2 Oz diffe with 0, -2mg1 + 1 &m; = 0 "O, " Qui] (1.7.6)

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=> - nO2 + qai2 + n-\frac{1}{2} - z\frac{5}{2i} =	7
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0 = E(0,2) + C2(-) + 13(0)	4
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Let X1, K2, ... Xow he a diaridam cample for B (MOD) diet. Were OE (0,1) 1/2" unknown and on is a known the integer her & using M.L.E. lay: 02 (1-0) n-x L(017....2m) = jointpay (21,...2010) - 2 m m (q: Eq: (1-0) m-4; rape dog woth sias => £ [en (MCa;)+4; m0 + (m-4;)] diffe. wit 0 = {ai + nm - {ai (1) = 0

77 2) mean of sample