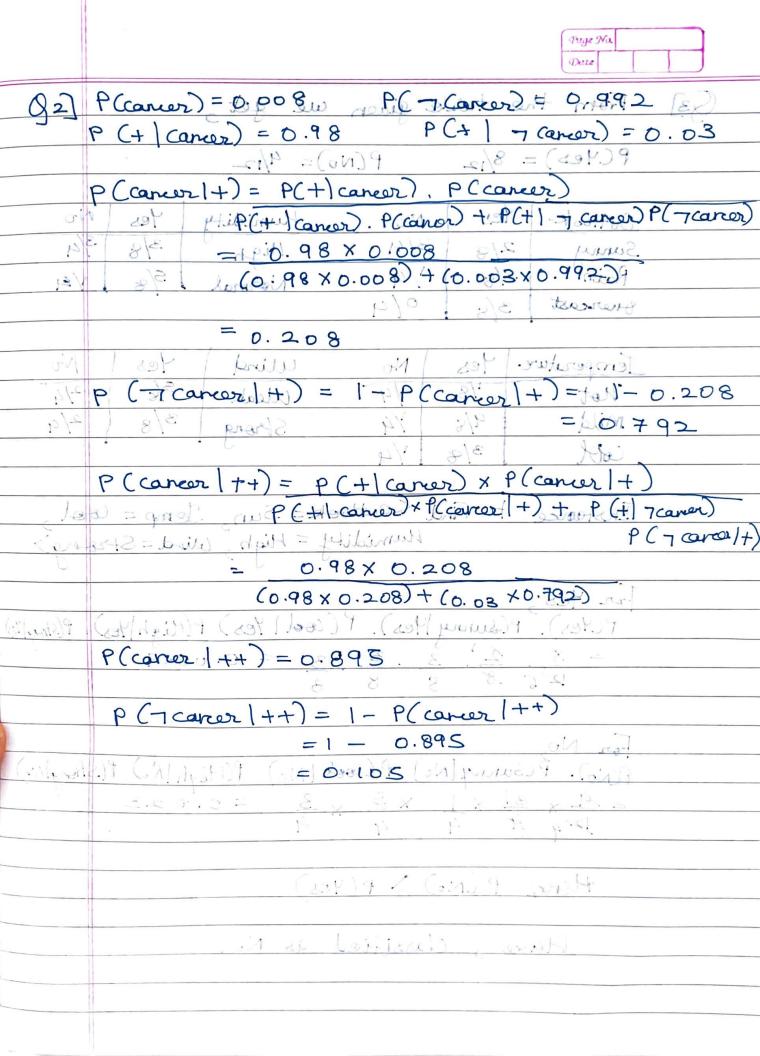
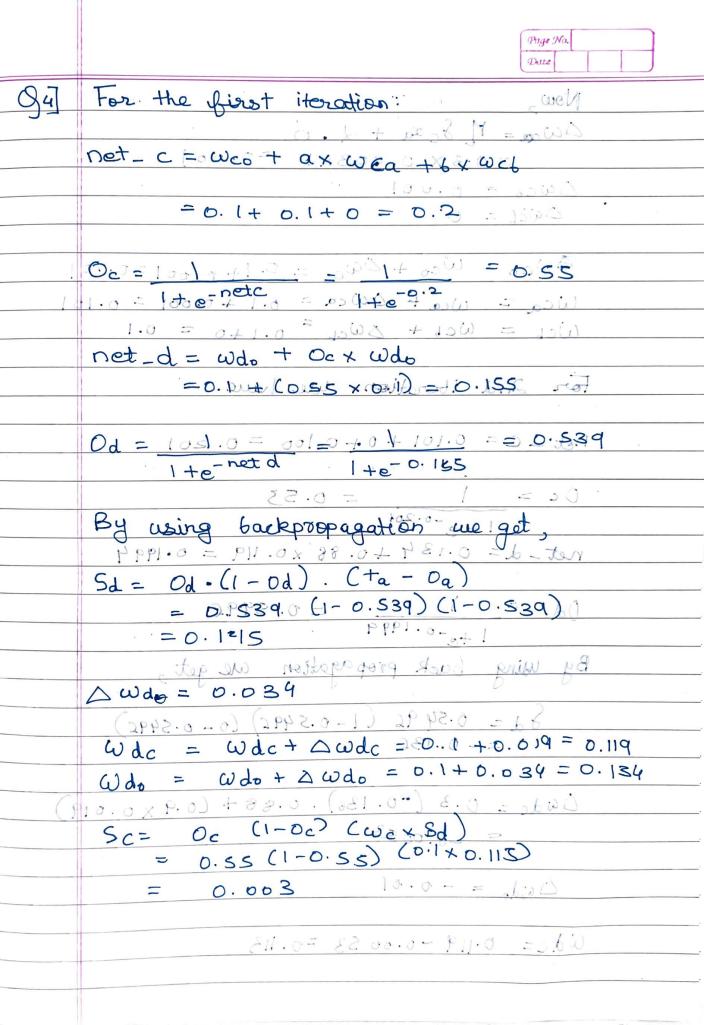
SIDDHARTH PARAAG NICAKHE ML HW-4 Quil Bayes Theorem many res We know that
PCE: (A) = PCE: (PA) P(E; (nA) = P(E; A). P(A) = P(AIE;)P(E;)-Then we know that, PCA) = PCAJEK). PCEK) Replacing (ii) and (iii) in (i) P(E; |A) = P(A|Ei). P(Ei)

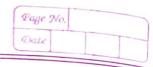
P(A|Ek). P(Ex) Hence, Prooned Before understanding why it is usoful let us understand what bayes Theorem is? It is a method of calculating conditional probability which is the probability that an event occurs given that another event occurs (anditional probabilities are wital to get accurate prediction in machine dearning problem. It helps in building more accurate models it helps in building more accurate models.



93] From the stolle given we get 5 (serve) 9 (2) P (+) (ances) = 0.98 P (+) 7 (ances) = 0.0 P(Yeb) = 8/12 P(No) = 4/12 (comesself) = P(+) convert), P(comesse Outlook Mes Carnon Com Munidity Yes No Sunny 2/8 3/4 × 20 Migh
Rain 1 2/8 1/4 00 0 × 8 Normal 3/4 YE quereast 3/8 0/4 e 0.2.0 = Temperature Yes No Ulind Yes No 20-c. 2 - Not= (+1 1/8 2/4 Weak 5/8 co + mild= 4/8 2/4 Cool 3/8 P(coner (++) = P(+ (coner) x P(coner)+ Instance to Find Coutlook & Sun, Jemp = Cool, (4/00m)-) Mumidity = High, Wird = Strong> For Yes 1 200 + (800.0 x 80.0) P(Yes). P(Sunny 14es). P(Cool 1 Yes) P(Migh 14es). P(Shay 16) = 8. 1. 3. 30.30 = 10.008709 P(J(dress /++) = 1- P(cares /++) on No. 218.0 - 1= P(No). P(Sunny[No) P(cool | No) P(High | No) P(Strong|No) = 9 x 31 x 1 x 3 x 3 = 0.023 124 4 4. 4 4 HERRY P(NO) > P(Yes) Hence, classified as No.

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Now, iteratives iteratives: DWa= MScxa + d.o =03x0,003x1 =0000 = too Dwc0 = 0.001 Que6 = 6.0 . 0 +1.0 +1.0 = 3wc0 = Wc0 + Owc0 = 0.1+0.001=0.101 $Wca = Wca + \Delta \omega ca = 0.1 + 0.001 = 0.101$ $Wcb = Wcb + \Delta \omega cb = 0.1 + 0 = 0.1$ abiv x 00 + obiv = bitin For 2nd iteration we have Net 2 c = 0.101 + 0 + 0.100 = 0.201 = 1) Oc = 1 = 1 = 0.53 top140e-0:201/copoquetquad prices 49 net-d= 0.134+0.88 x0.119 = 0.1994 $SL = Od \cdot (I - cd) \cdot (fa - ca)$ Dd DE= 0-1) (PEZ. - = 0.05998)

1 +e-0.1999

By wing back propagation are get, 8d= 0.5496 (1-0.5496) (0-0.5496) PH. E - PLS. Ex- 0.136 Jan - 5.600 = 5.600 (1) = wdo + 2 wdo = 0.1+0.084 = 0.134 Oudc = 0.3 (-0.136).0.88+(0.9 x 0.019) 4711.0 × 100 5302 500-10 50 =52 a wd0 = -0.01 Wdc= 0.119-0.0053 =0.113

Page N	a	
Datz		

Wdo = 0.134 - 0.01 = 0.124

Sc = 0.55x (1-0.55) (6:113)-(0.13c)

Now as done before

Quea = 0.0009

DWC0 = 30

△wc6 = -0.001

As done before ue got

Wco = 0.101

Wdo = 0.124

Wcq = 0.1072

W dc = 0.113

WC6 = 0.009

Absor-