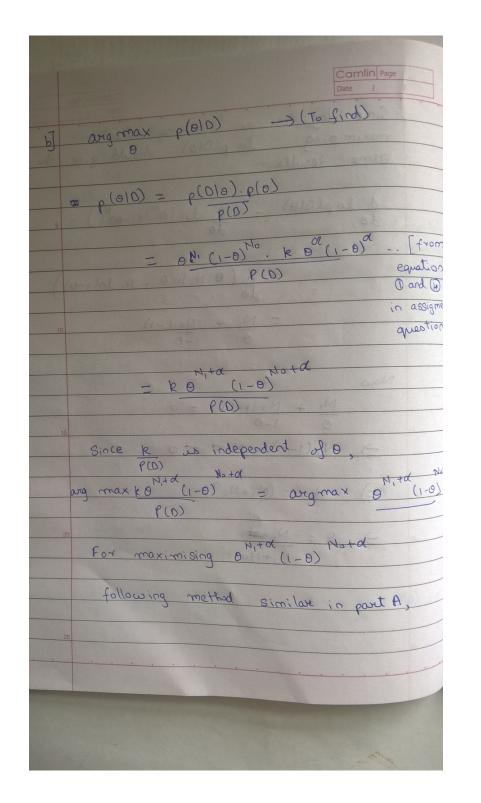
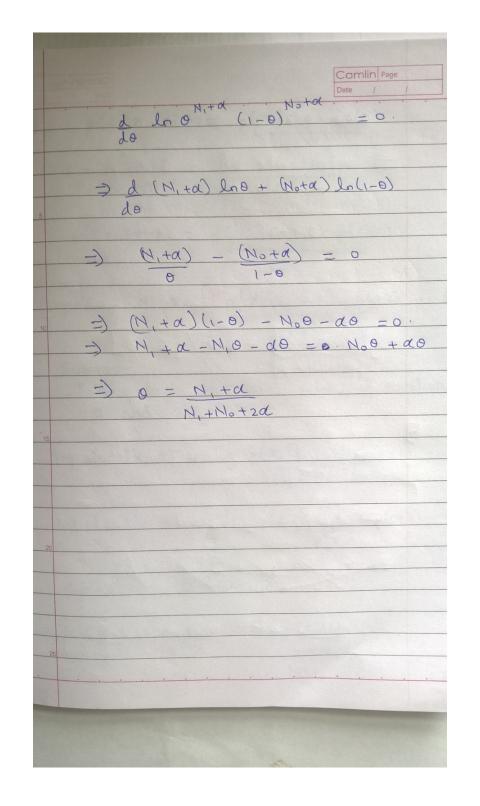


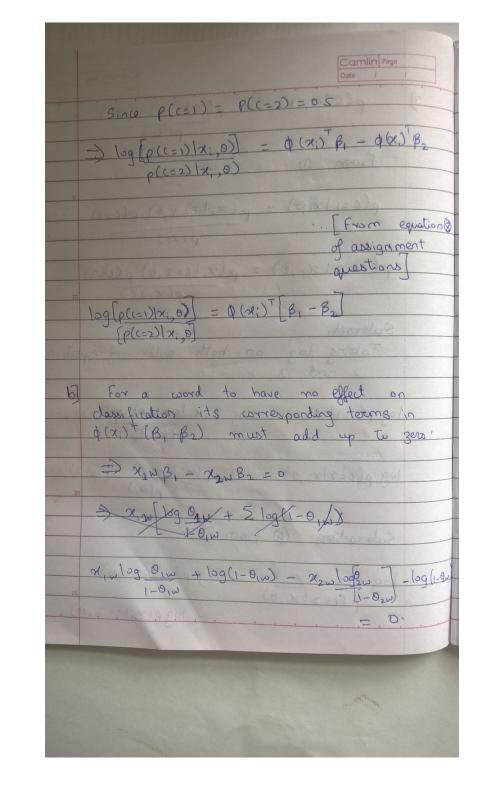
	Camlin Page Date / /
	From equation 2,
	the probability that the person
	with viene blood type is go size
	The state of the s
	a 1 house the person is again lead a sainte
	an varies (reduces) as the population size
10	Incluases.
7	
2)	a) (was discussed in class)
ror	p(010) = 0"(1-0) No 1
a	so normal took ptilledon and that
	To maximise p(D(0),
	diffrentiating both sides of equation 1,
900	
2	de (0/0) = d Bh, (1-0)ho
	90 TO E X 10 J
03	maximum p(0/0) is when d p(0/0) =0
2	Jo Jo
	· · · · · · · · · · · · · · · · · · ·

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Date / / Since loge is an increasing funtion maximising In p(010) should give the same results. d lnp(0/0) - d ln(0^h(1-0)^h0) = d (@ N, 100 + No In(1-0) $=\frac{N_1}{0}+\frac{N_0}{1-0}$ Now $\frac{N_1 + N_0(*-1)}{9} = 0$ ->. N, (1-0) - No0 = 0. =) N, = (M,+N0)0 =) 0 = N, ##. (8-N,+No





Camlin Page $p(c|x_i,0) = p(x_i|c,0) \cdot p(c) - \cdots 0$ From O p(c=1|x,9) = p(x;|c=1,0) p(c=1)P(2;) $p(c=2|x_i,0) = p(x_i|c=2,0) p(c=2) -...$ p(x;) Subracti Taking log on both sides of equation 2 and 3, log p(c=1/x;,0) = log p(x; |c=1,0).p(c=1) --- (p(xi) $\log p(c=2|x;0) = \log p(x;|c=2,0) \cdot p(c=2) \cdot p(x;)$ Subracting @ from (A), $\log \rho(c=1|x_{i},0) = \log \rho(x_{i}|c=1,0)$ - logp(2:1c=2,0)



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Date / / 2010 2/w log 0, w] - 22w log 0,2w = log (1-02w) 1-0,w 1-02w -log(1-0,w) XIN=1 and XIN=1 Since the word occurs in both documents designs =) O w (1-0, w) or equivalently B, = B2 1-0,w 1-02w => DIW = DZW i.e the probabities of the word occurring in documents of both dasses is equal. c] From part (b), a word does not affect ourse belighs about does label if its probability of occuring in both classes is > ô; = ô; w for all i, j ∈ c then the word is ignored by our dassifier.

