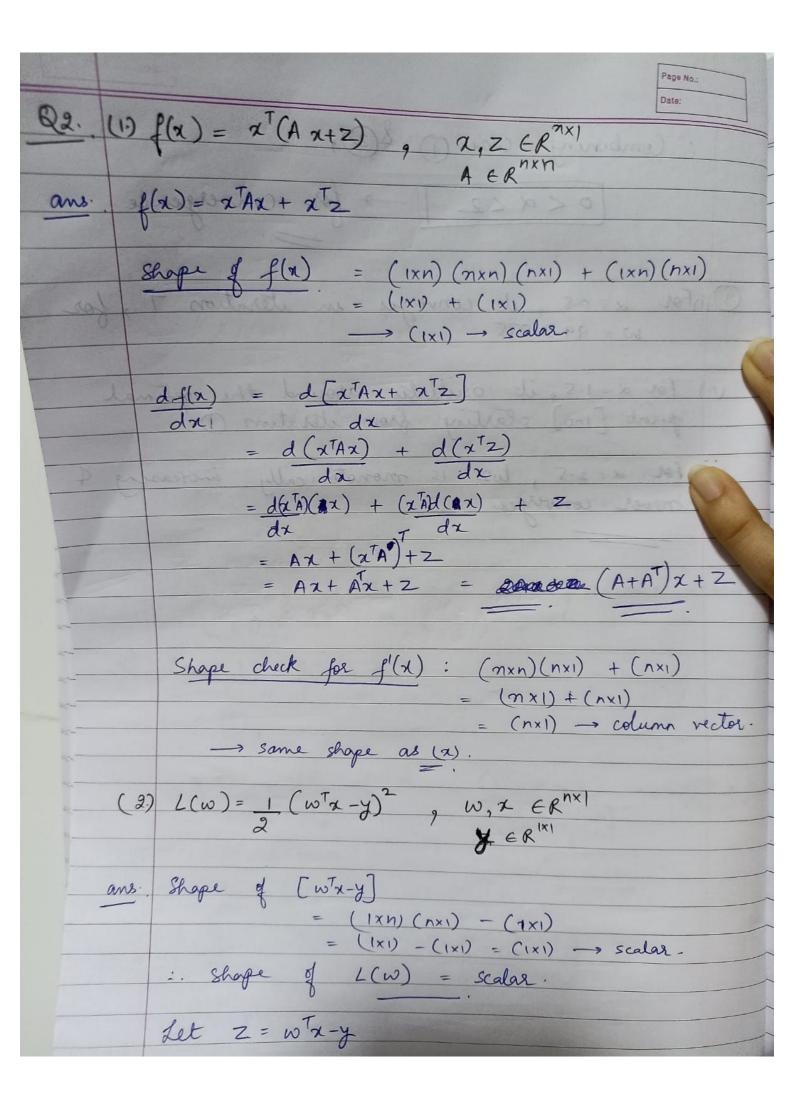
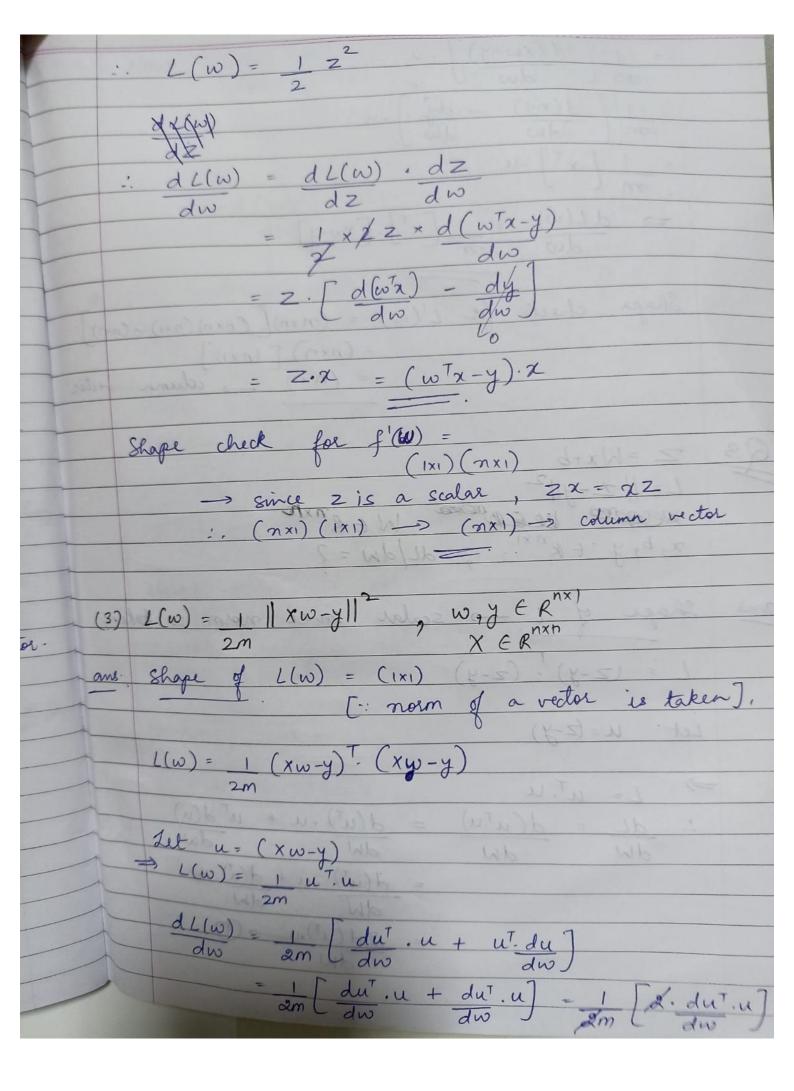
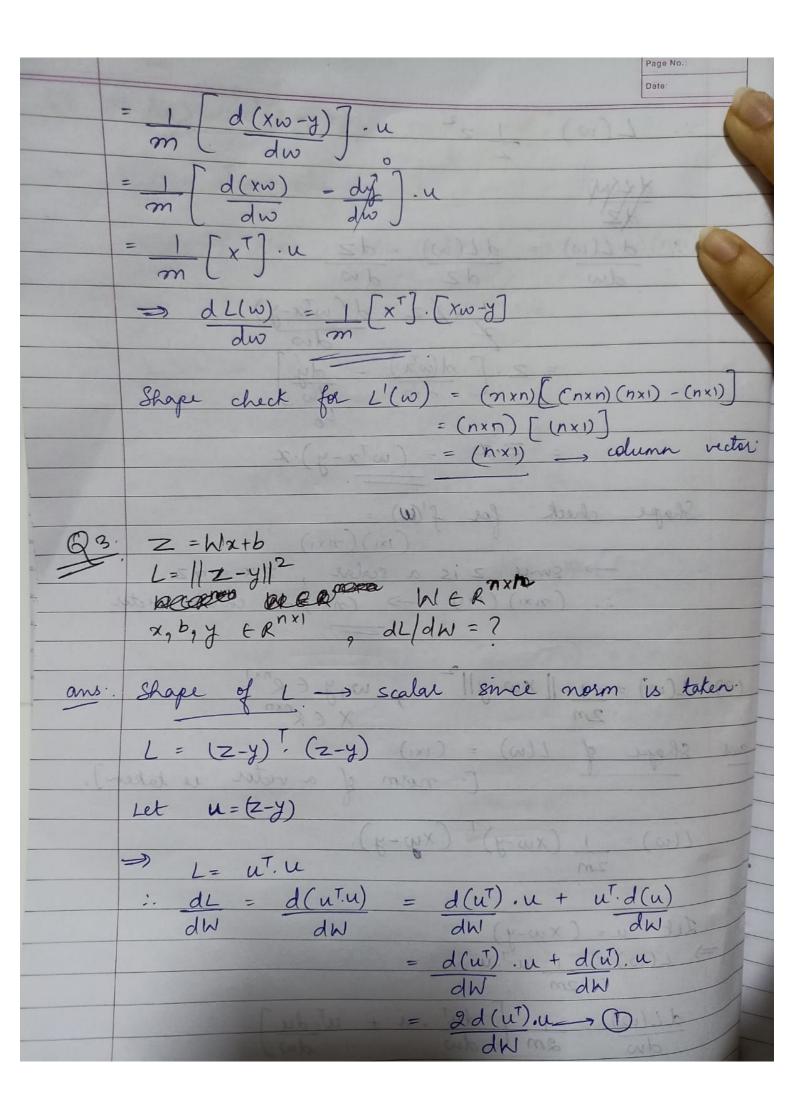


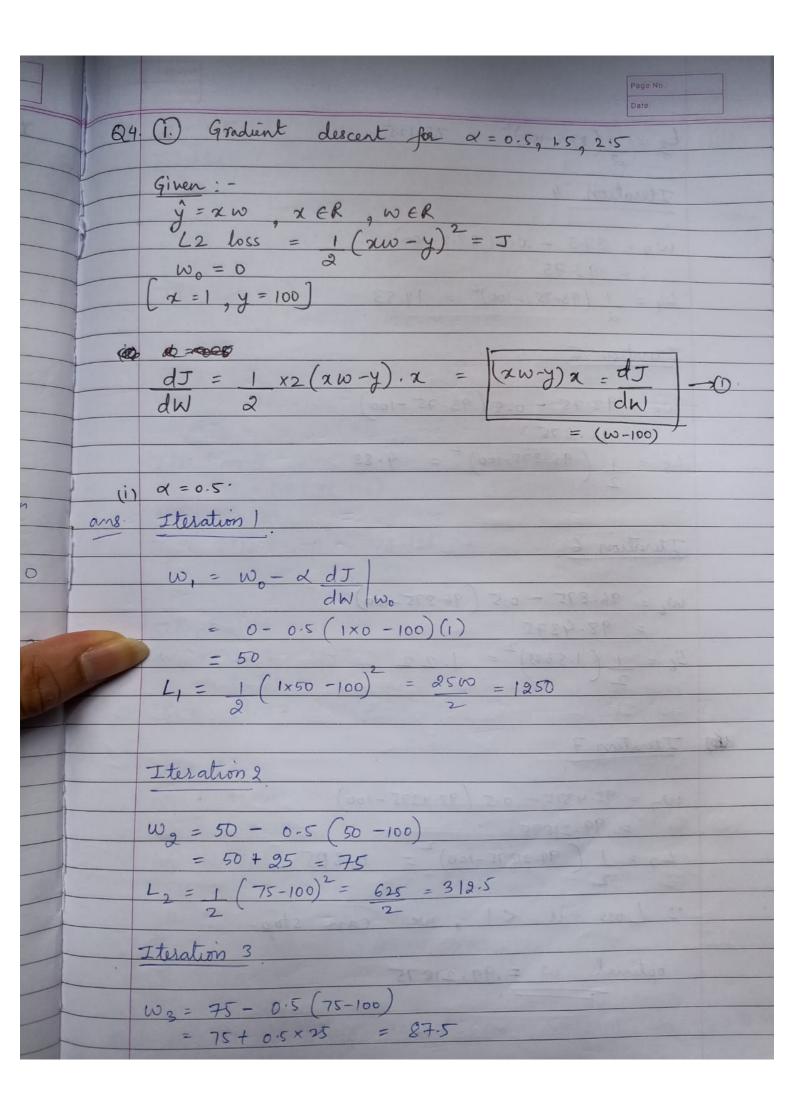
Page No .: Date: Seftplus activation $f(x) = 1 \cdot \ln(1 + e^{\beta x})$ ans. 1+eBX





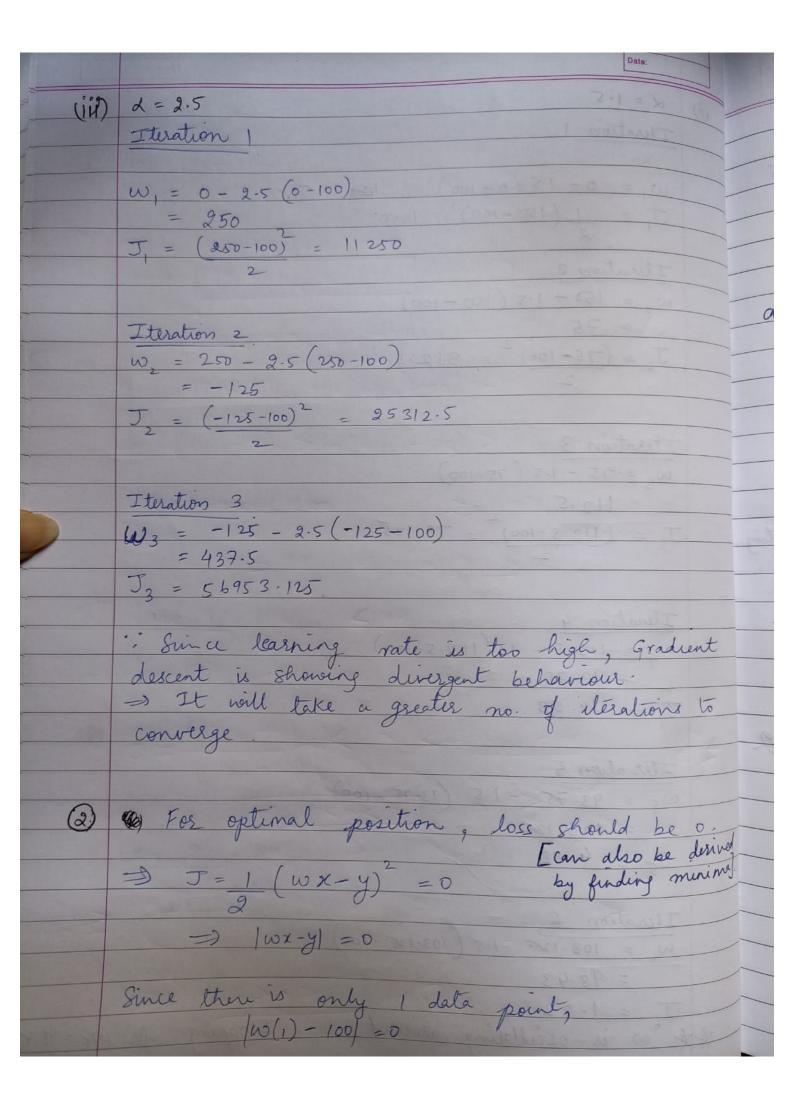


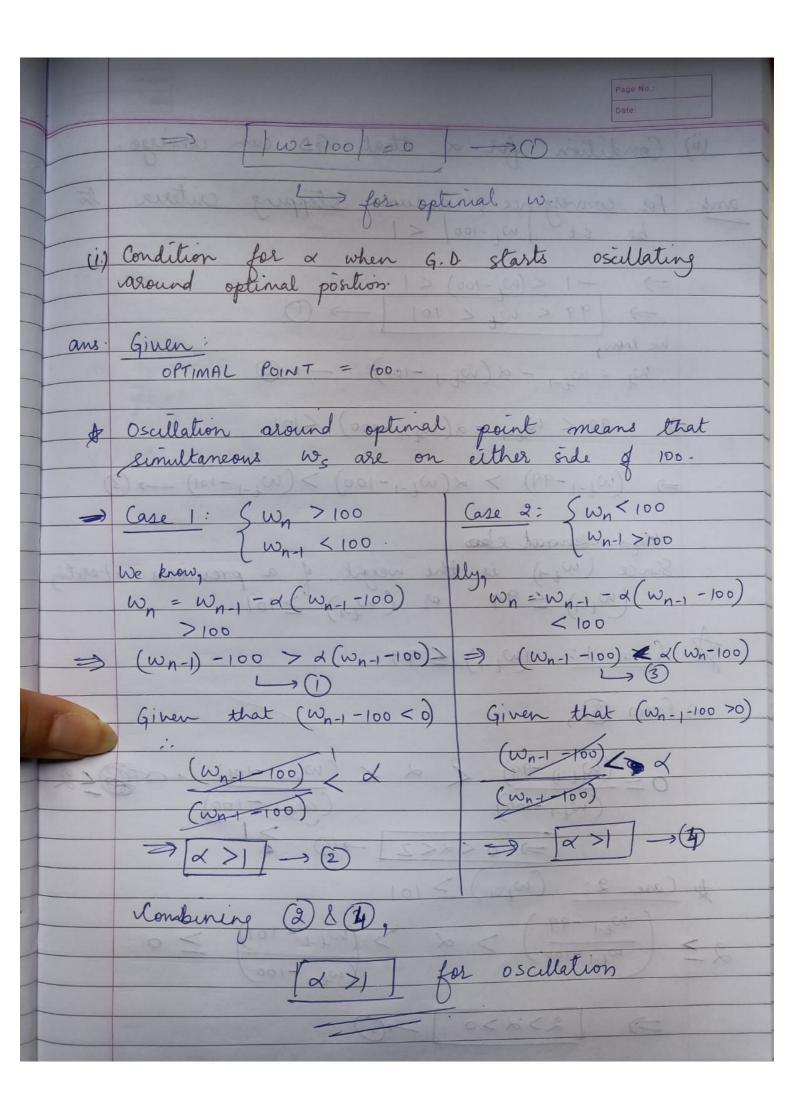
Page No.: Now, $d(u^{T}) = d[wx+b-y]^{T} = d[x^{T}w^{T}] + db^{T} + dy^{T}$ We rectorize matrix WERnints a row of n features, of Tw, w, lloing this in eq. (2). $d(u^{T}) = \chi^{T} + 0 - 0 = \chi^{T}$ Combining 1 & 3, = 2 (Wx+b-y). xT Shape check of de = (nxn)(nxi) + (nxi) - (nxi) (1xn) = (mx1) · (1xn) = (nxn)

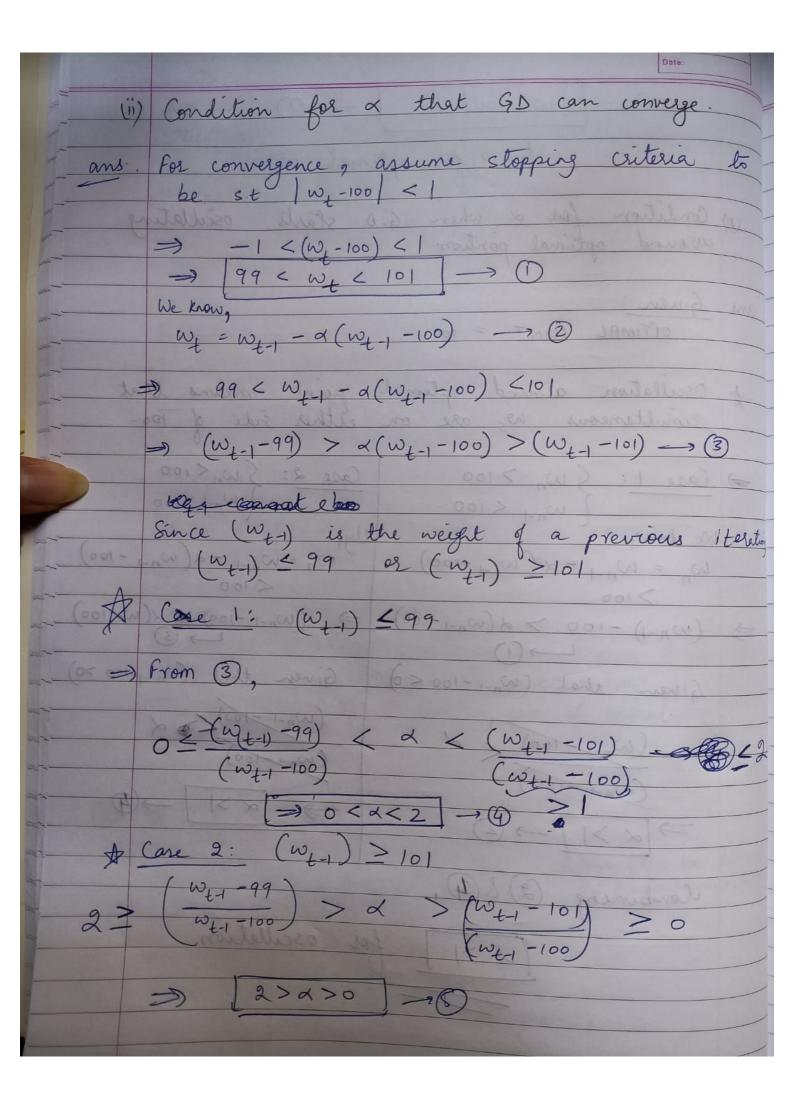


```
L3 = 1(87.5-100)2 = 78-125
    Iteration 4
    w_4 = 87.5 - 0.5(87.5 - 100)
= 93.75
    L_4 = \frac{1}{2} (93-75-100)^2 = 19.53
    Iteration 5
   W5 = 93.75 - 0.5 (93.75-100)
    296.875
L_5 = 1 (96.875-100)^2 = 4.88
    Iteration 6
    W_6 = 96.875 - 0.5 (96.875 - 100)
= 98.4375
L_6 = 1 (1.5625)^2 = 1.22
Iteration 7
   W_{7} = 98.4375 - 0.5 (98.4375 - 100)
= 99.21875
    L_7 = 1 (99.21875-100)^2 = 0.305
    : Loss is <1, we can stop.
      optimal w = 99.21875
```

d = 1.5 Iteration 1 $W_1 = 0 - 1.5 (0 - 100) = 150.0$ J = 1 (150-100) = 1250. Iteration 2 w = 150 - 1-5 (150 - 100) $J_2 = (75-100)^2 = 312.5$ Iteration 3 Wg = 75 - 1.5 (75-100) = 112.5 $J_3 = (112-5-100) = 78.125$ Iteration 4 W4 = 112.5 - 1.5 (112-5-100) $J_L = 19.53$ Iteration 5 $W_5 = 93.75 - 1.5 (93.75 - 100)$ = 103,125 J_ = 4.88 Iteration 6 W = 103-125 -1.5 (103-125 -100) = 98-43 J₆ = 1-22 * w is oscillating around 100. Stopping for W₆.=98.43.







:. Combining case (1) &(2), 0 < 9 < 2 | -> for convergence 3) in For x = 0.5, it converges in iteration 7 W = 99.21875(i) For $\alpha = 1.5$, it oscillates around the optimal point [100] starting from iteration (1) (iii) for $\alpha = 2.5$, loss is monotonically increasing 4 never converges.