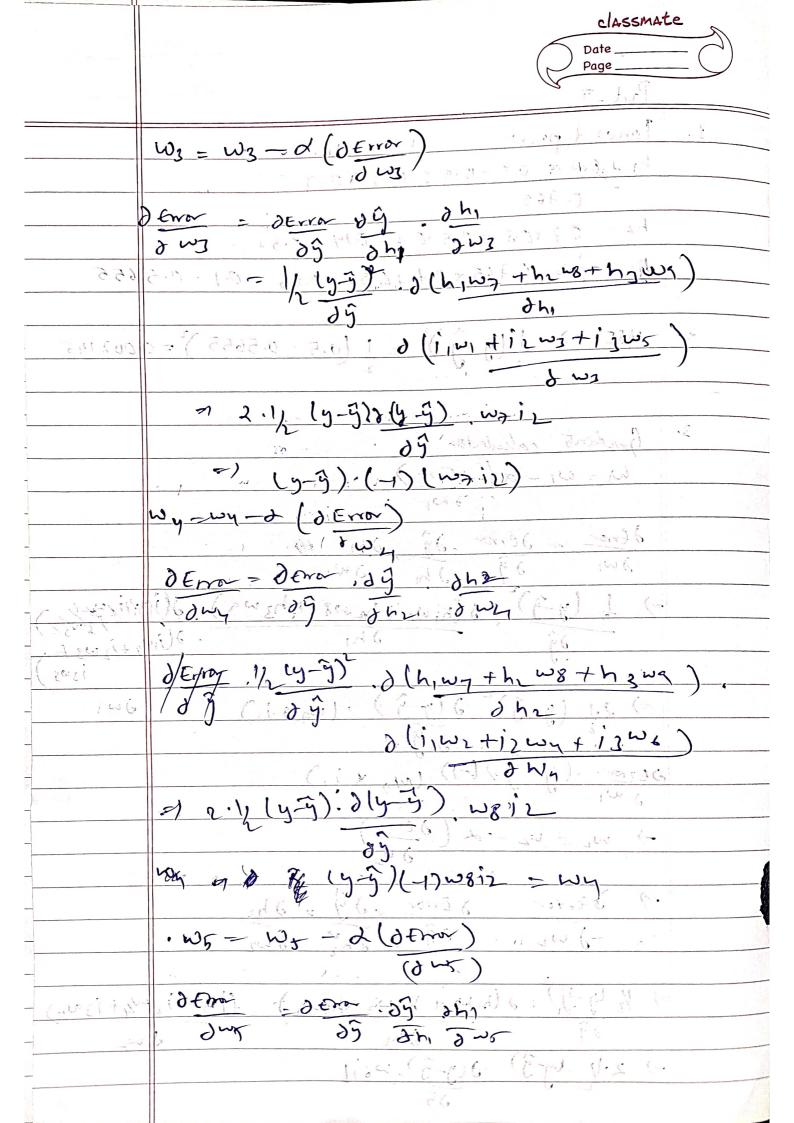
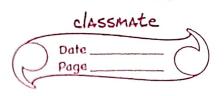
	Page
	Part -II
1.	Forward pass:- (mill,) in - our - our
	h1 = 0.7 x -0.3 +0.5 x 0.15 +0.9
	= 0765 MG
	h2 = 0.7 x0.8 +0.5 x0.2 -014 = 0.52
(2	1/3 = ŷ = 0-765 x 0-7 +0.52 x 0.25 -0.1 = 0.5655
	146
2,4	MSE => $\frac{1}{2}(y-\hat{y})^{2} = \frac{1}{2}(0.5-0.5655)^{2} = 0.002145$
	2 0 2
3	1 = (P & S (P C) 1 1 5 5
3.	Gradients calculator
	$W = \omega_1 - (\alpha(i \partial Emb)_1) (E-i)$
	1201 (MOV. 76) 4- NOW - 1001
	déria - derior dj dhi to
	dwi dy addhi powings
	=) ((u i)) = 1 to we the we this wa) of (My Hy cyt)
	λη - d(iω, +i)ω3+
	1305)
	=) 2.1 (y-g)? -2 (y-g) · (wa +1,)
1	sweit en en it swait of 6
	DEVIO = (4-4) (-1) (W, * 1,)
	20, 100 (ET) 6. (P.W) 11. 10 (2)
	-) W2 = W2 - 2 (dfm)
3	-11-1 - CIRCUCI I (S-N) VE B' C. MAN
	of darrow = d Error , d y , dhe
· · · · · · · · · · · · · · · · · · ·	JW2 (2706) The 15wy 100.
	(74 6)
	1 /2 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1
	og and den EG dur
7	-) 2.1/ 4-g) .0(y-g). weil



からか 1/1997 かいいり + からいまけれるいり) · Sliw, +1, wytizws) =) (y-5)(-1) wais We - Wb - d (derra) derror = derror . dg .dhi 一次(少り) る(大は一十九2 いとかりつ) ((() way tizwy tiz w6) (p- p) (A.) to - deter () of water weight of 2 Error 2 / Error (1) 3 / 2 - 2 0 - 60 - 60 W8 - W8 - d (d & roor) = d & from - d & dw8 - dg dw8 1 (y-3) 0. d (h, w+ + h28 + h2 w q)

2 mg

(y-3) (-1) h2



Wy= Wy-d (deno) 7 1/2 (y-9) . 2 (h, w) + h2 w8 + h3 w9 7 2.14(14-3 X4-5) : ha (y-g)(-1)(h3) WI= WI- & (-1, 07 (5-5) w_ - w_ - x (1-17 ws. (y-5)) wz = wz = d (-iz wz (y-j)) wy = wy - d (12 (48 (49)) wr = wr - a (iz wa (y-1)) ws = ws - a () (300 8 (4-9) Wy = wj -d (-h, (4-g)) w8-w8-d-(2/1/14=3))-1 update weight and bias. W1 - - 0.3 - 0.03 (0.7 KO.7 X0.0655)=0-0-3009 W) = 0.8-0.03(0.7 x0.25 x00655) =0.7986 wg = 0-15 - 0.03 (0.5 x0.7 x0.0655) = 0.1493 Wy- 0.2 - 0-03 (0.5 x0.25 x0.655) = 0.1997 W5 = 0.9-0.03 (1x0.7x0.0655) = 0.8984 wa ω6= -0.14 - 0.03 (9×0.25 × 0.06) = -6.1401 lux = 10.7 -0.03 (0-765 × 0.0657) =0.6984 wg - 10.15 -0.03 (0.5 XO.065) = 0.2489 wg - - - 001 - 003 (0.0655) = +0-1019

5.	Computation graph for forward pass:
	Computation graph to forward pass:
4	

· · ·	2
	Computation graph for Backpairs:
	ω_1 .
	7
	ý / (*) - (*)
	w7
	-i1 —
	2
10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	
d F	WL
	y
-	3 - 0 - 0
E	Wg.
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nv.	ω_3 = ω_3
	3)0-10-10
	w7.
- 12 m	-12-
	a solution
	Wy
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	WS = MANAGER A	- Cur
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	9.	. (20)
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	-i3 -(v) /2(%)	
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		11-
	Wb	<u> </u>
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	2	
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	wg ,	
	y S S W O W W O	
	9 - D - W9	y (v)
		41
	-43	50
	$\alpha -$	•

6.	h, = 0.7 x-0.3009 +0.5 x 0.1493+1 x0.8986=0.7626
	12 -0.7 × 0.7996 + 0.5 × 0.1997 * + 1×601404)
	> U-55 92
7	$-\frac{1}{2}(9-9)^{2}$ $=\frac{1}{2}(0.5-0.5599)=0.00179$
	= 11/25 - 125599 = 120129
	72(0.3)
	Mean squared are reduced from 0.00294 to 0.00179 which explains that the model is improvedly performance on training data. manipulating weights based on the performance.
	0.00 179 which explains that the model is
	improveding performance on training data.
	manipulating weights based on the performance.
,	
2	

	Part - 2
2 .	Derivative of tanh
20.	$tanh(x) = \frac{e^{x} + e^{-x}}{e^{x} - e^{-x}}$
1	
No.	$\frac{d \tanh(n)}{dn} = \frac{d \left(e^n + e^n\right)}{e^n - e^n} = \frac{d \tanh(n)}{dn} = \frac{(e^n + e^n)}{(e^n + e^n)}$
	$\frac{d \tanh h(x)}{dx} = \frac{d}{dx} \left(\frac{e^{x} + e^{-x}}{e^{x} - e^{-x}} \right) \Rightarrow \frac{d \tanh h(x)}{dx} = \left(\frac{e^{x} + e^{-x}}{e^{x} + e^{-x}} \right)^{2} - \left(\frac{e^{x} - e^{-x}}{e^{x} + e^{-x}} \right)^{2}$ $\Rightarrow e^{2x} + e^{0} + e^{0} + e^{0} + e^{-x} - \left(\frac{e^{x} - e^{0} - e^{0} + e^{-x}}{e^{x} + e^{-x}} \right)$
	()
	$(e^{\eta}+e^{-\eta}) \xrightarrow{2} \frac{2}{e^{\eta}+e^{-\eta}} \times \frac{2}{e^{\eta}+e^{-\eta}}$
	We know that 2 = enter = cosh(n)
	Theyou of fanh(x) = 1 => (sech x) dx (cosh x)
	hyperbolic property: tanh2x + sech2x = 1
	$k(ana =) sech^{2}n = 1 - tanh^{2}x$
	Hence, Td (tanha) = 1 - tanha x
	if we assume too tanh (x) = f(x).
	then $\int d^{2}f(x) = 1 - f(x)^{2}$
	[dr