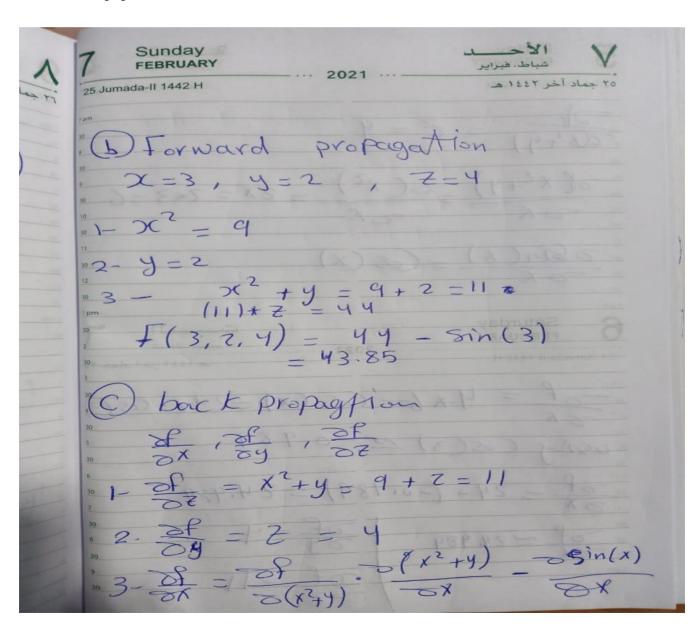


Quiz 3

Let's assume we have a function. $(x,y,z)=(x^2+y)\cdot z-\sin(x)$

- a) Draw the computational graph.
- b) Evaluate the function at x=3, y=2, and z=4 using forward propagation.
- c) Then use backward propagation to get $\partial f/\partial a$, $\partial f/\partial b$, $\partial f/\partial d$, $\partial f/\partial g$

a)Draw by yourself





5 23 Jum	Friday FEBRUARY	2021—	الجمعة شباط. فبراير بربياد آخر ١٤٤٢ هـ
30 30 X	= = = =	= 4	Districted
	$(x^2+y)=0$	(x2) =	2x = 7×3=6
30 11 30 12	Sin(x) = ((os (x)	5-6-
1 pm 6	Saturday FEBRUARY	2021	السبت شباط. فبراير الجماد آخر ١٤٤٢ هـ
7 am 30 8	$\frac{f}{5x} = 4x$		×) = 24 ≠ - 65(3)
30 9 US 30	ny Cos(3. f 24- (-	0.989) =	: 24.989
30 11 30 12	x = 24.989) of	= 4
30 1 pm	X	DF TOF	511



2- Apply gradient descent where the true y=1 (positive)Two features:

x1=4 x2=5 w1=0.5 w2=0.75

28 Jumada-II 1442 H	2021	رم جماد آخر ۲۶۶۲ هـ
7 am		
	= w, x, + wz	d+sx
8		
-one step	of avadient	descent
30	9100101	
10	- () - ()	10-51-1
Where the	True 9=1	(POSITIVE)
30 and	,	
12 Two Fea	itures:	
$\chi_1 = \gamma$	Xz= 5	
1 pm /1 - 7	12-5	
2 - Assume B	3 parameter	S
30	:11076	h=0.1
$w_1 = 0.5$	W2 = 0.75	0=0.1
4 N = 0 1		
	Aep for updo	to Qi
	nop ier ofde	0 13 1-
6 attl at		ocio alili
300 = 0	-1 VOL (7	(x(i); 0), y(i)
30/Nhere	(1)	
ola	E(J,J) = 16	(w.x+b)-y/ xj



) FEBRUARY	
1 Jumada-II 1442 H 2021	الثلاثاء مباط، فبراير
Gradient vector has 3 &	٧٧ جماد آخر ١٤٤٢ هـ
Vwp = [6 (w,x+1)]	dimensions.
1 10 -4	x, T
(W.X+h)-III	K-2
[6 (w.x+b)-y	
$= \int (0.9971 - 1) \times 4$ $= \int (0.9971 - 1) \times 5$	7
(0.9971-1)*5	
(0.9971-1)	
$\Rightarrow \hat{y} = 6(7) = 1$	
1 + e	n=0.
= [-0.0464]	V17 # [-010464]
) -0.058 D= u	2 -7 -0.058
	-0,0029
[-0.0029]	
0.755	
1001001	