Chapter 12

Gradient

The input story
dot em with weights

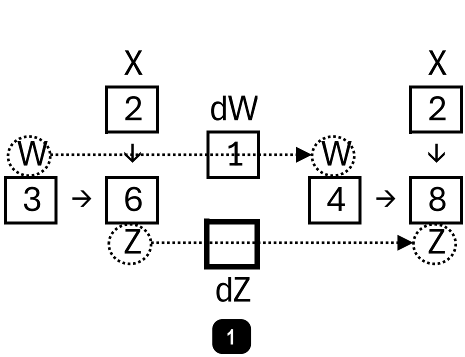
This interim called zee
goes for future sets

When the change in weight
is the order from the end

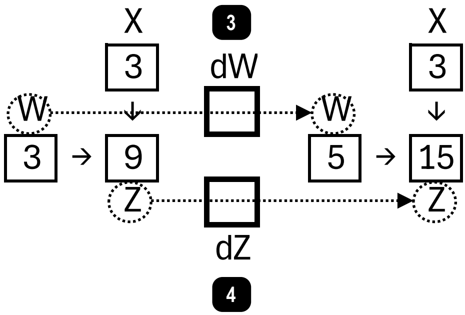
The processed input
show a slight different trend

How much change
of my trend may i know

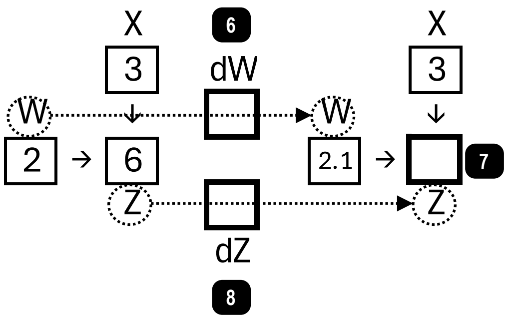
Do the gradient math
and it will show!



$$\frac{dZ}{dW} = \frac{\overset{1}{\boxed{}}}{\boxed{1}} = \underset{2}{\overset{X}{\boxed{}}}$$

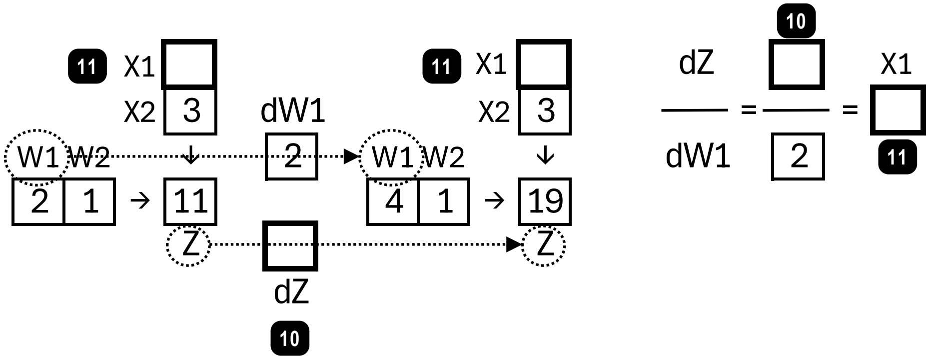


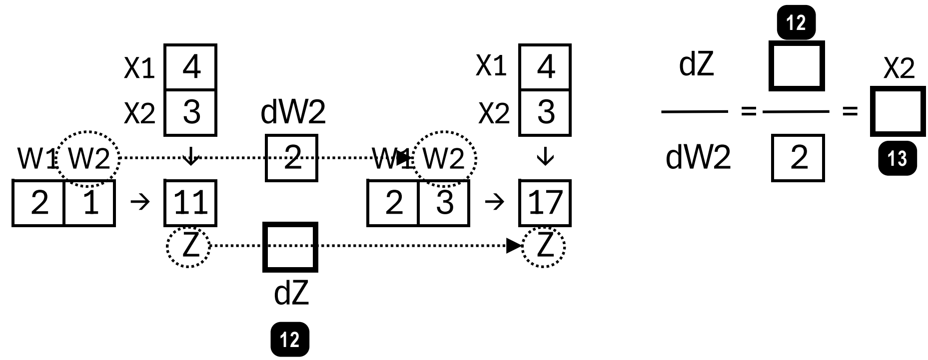
$$\frac{dZ}{dW} = \frac{\overset{4}{\boxed{}}}{\underset{3}{\boxed{}}} = \underset{5}{\overset{X}{\boxed{}}}$$

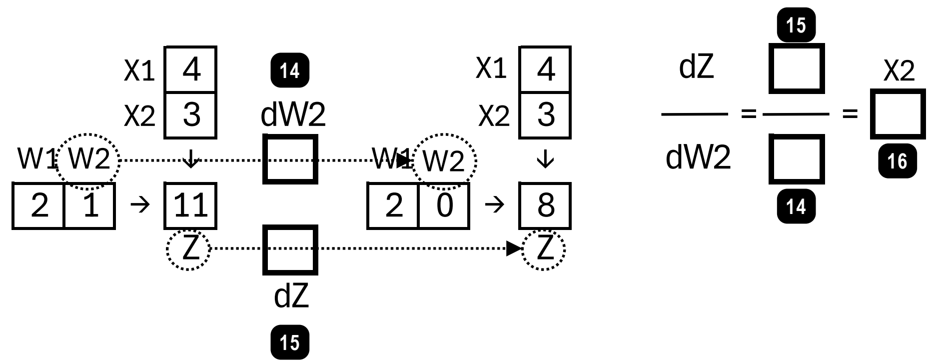


$$\frac{dZ}{dW} = \frac{\overset{8}{\boxed{}}}{\underset{6}{\boxed{}}} = \underset{9}{\overset{X}{\boxed{}}}$$

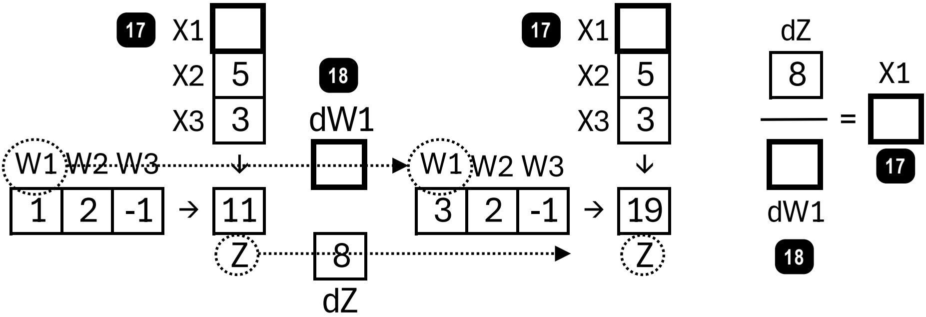
1	2	3	4	5	6	7	8	9
2	2	2	6	3	0.1	6.3	0.3	3

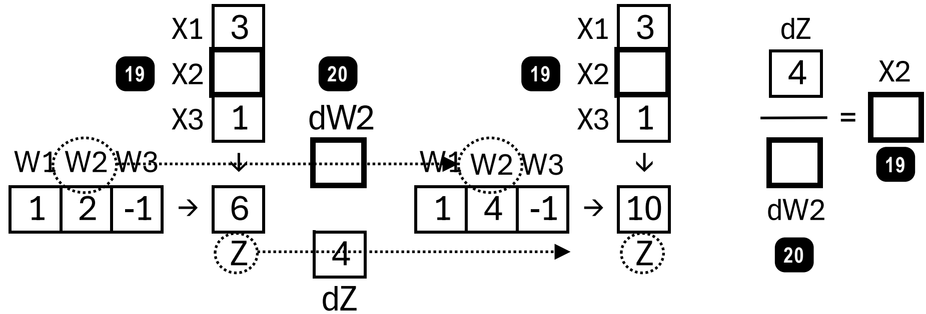


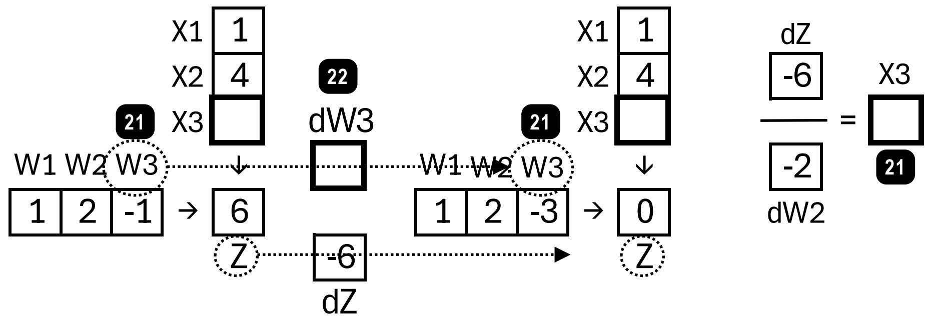




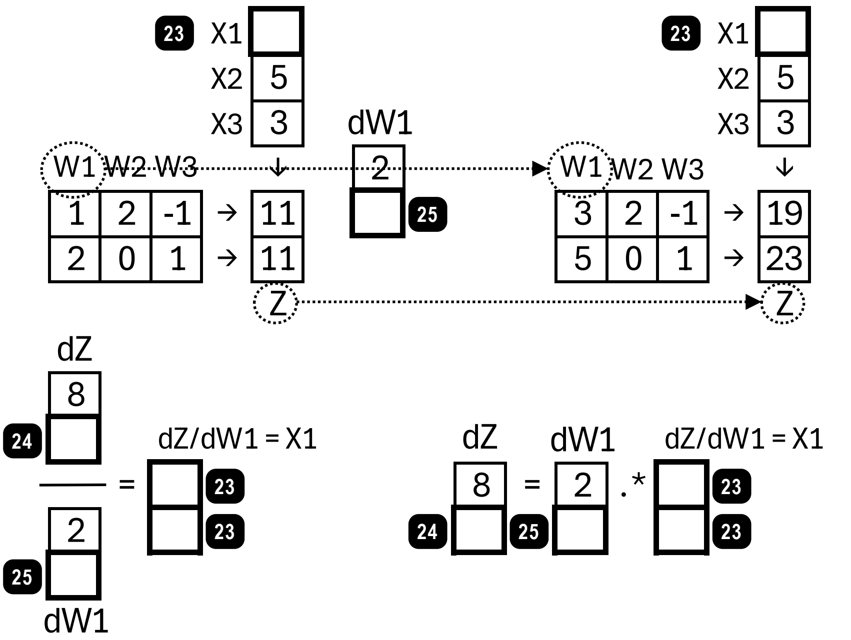
10	11	12	13	14	15	16
8	4	6	3	-1	-3	3

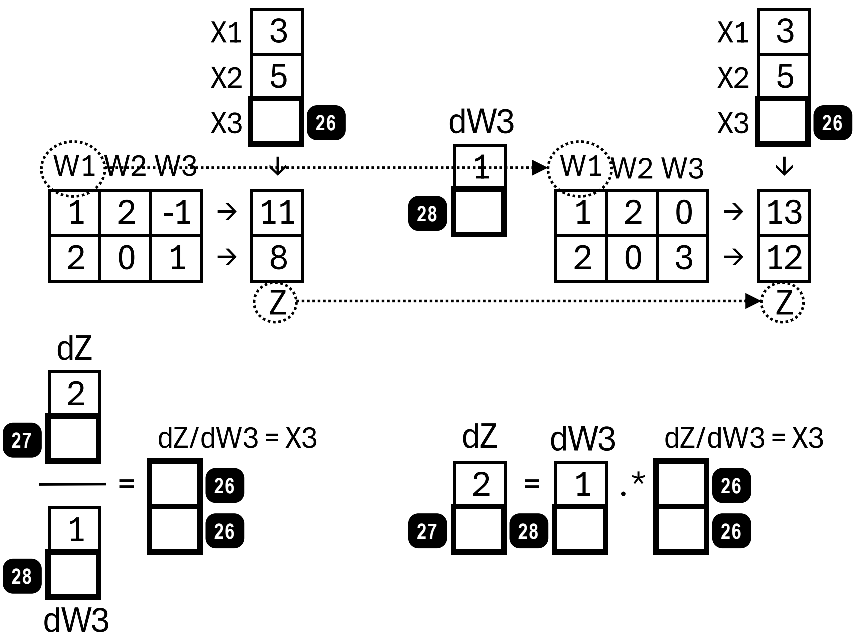




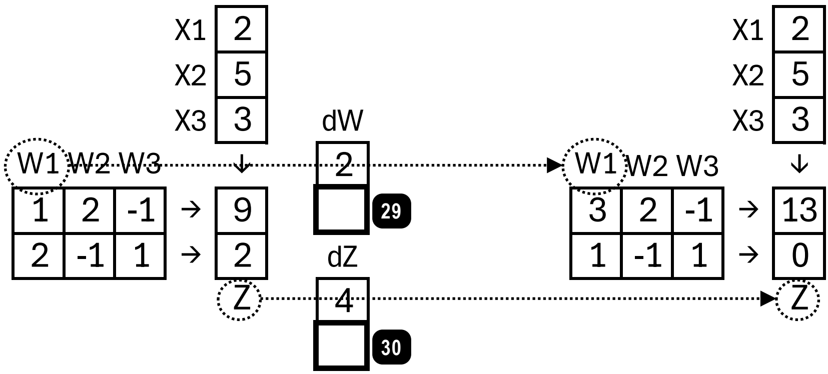


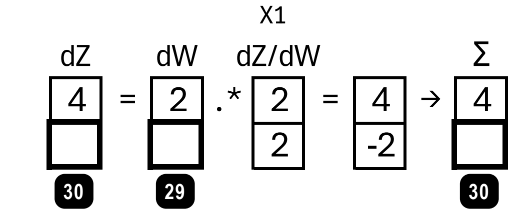
17	18	19	20	21	22
4	2	2	2	3	-2

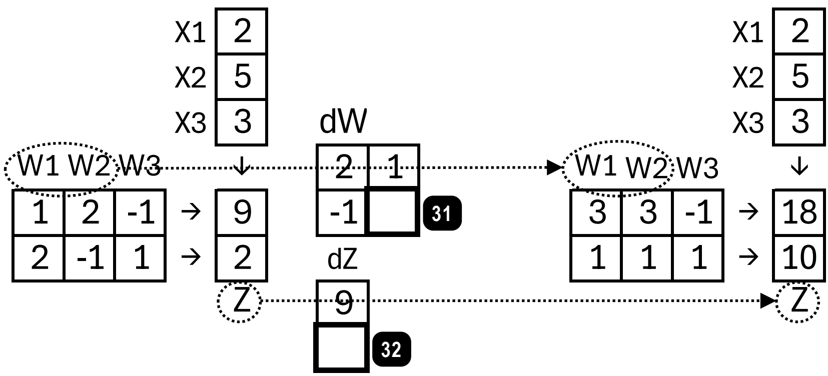


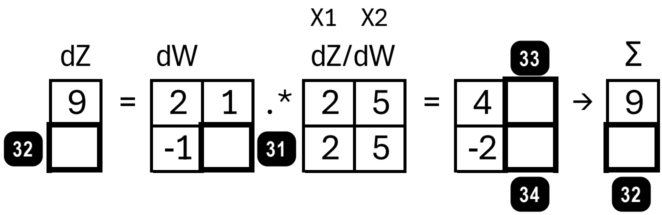


23	24	25	26	27	28
4	12	3	2	4	2

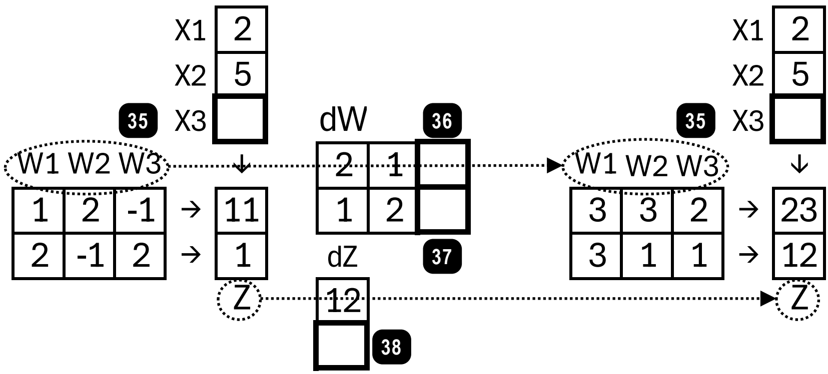


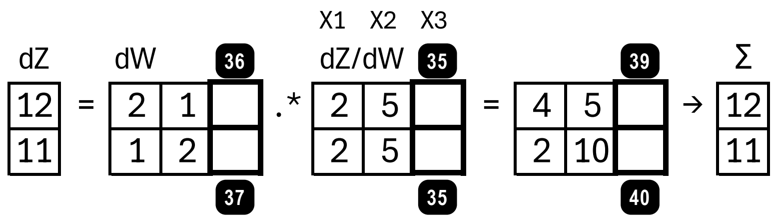


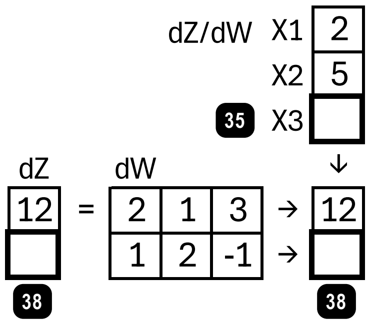




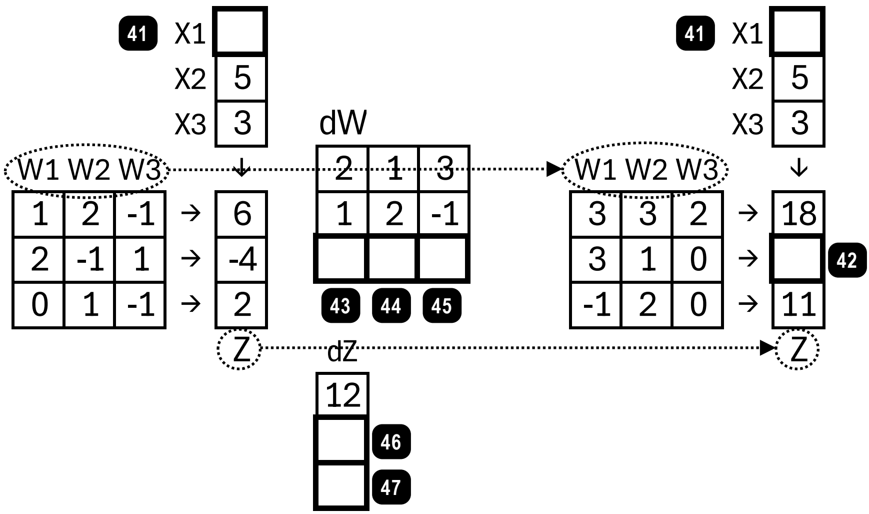
29	30	31	32	33	34
-1	-2	2	8	5	10

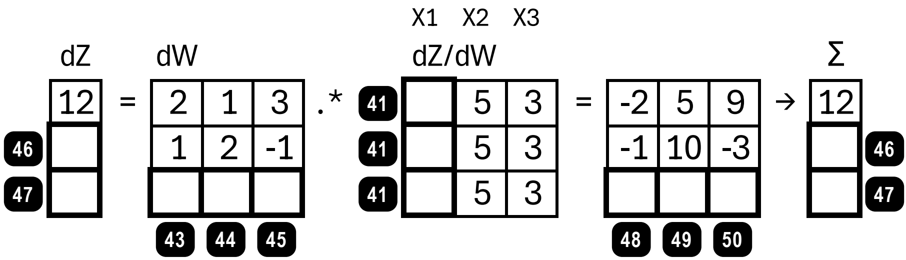


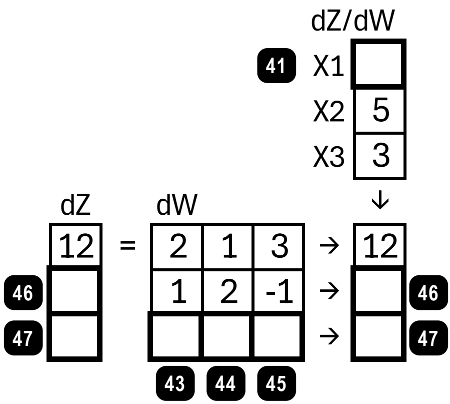




35	36	37	38	39	40
1	3	-1	11	3	-1







41	42	43	44	45	46	47	48	49	50
-1	2	-1	1	1	6	9	1	5	3