

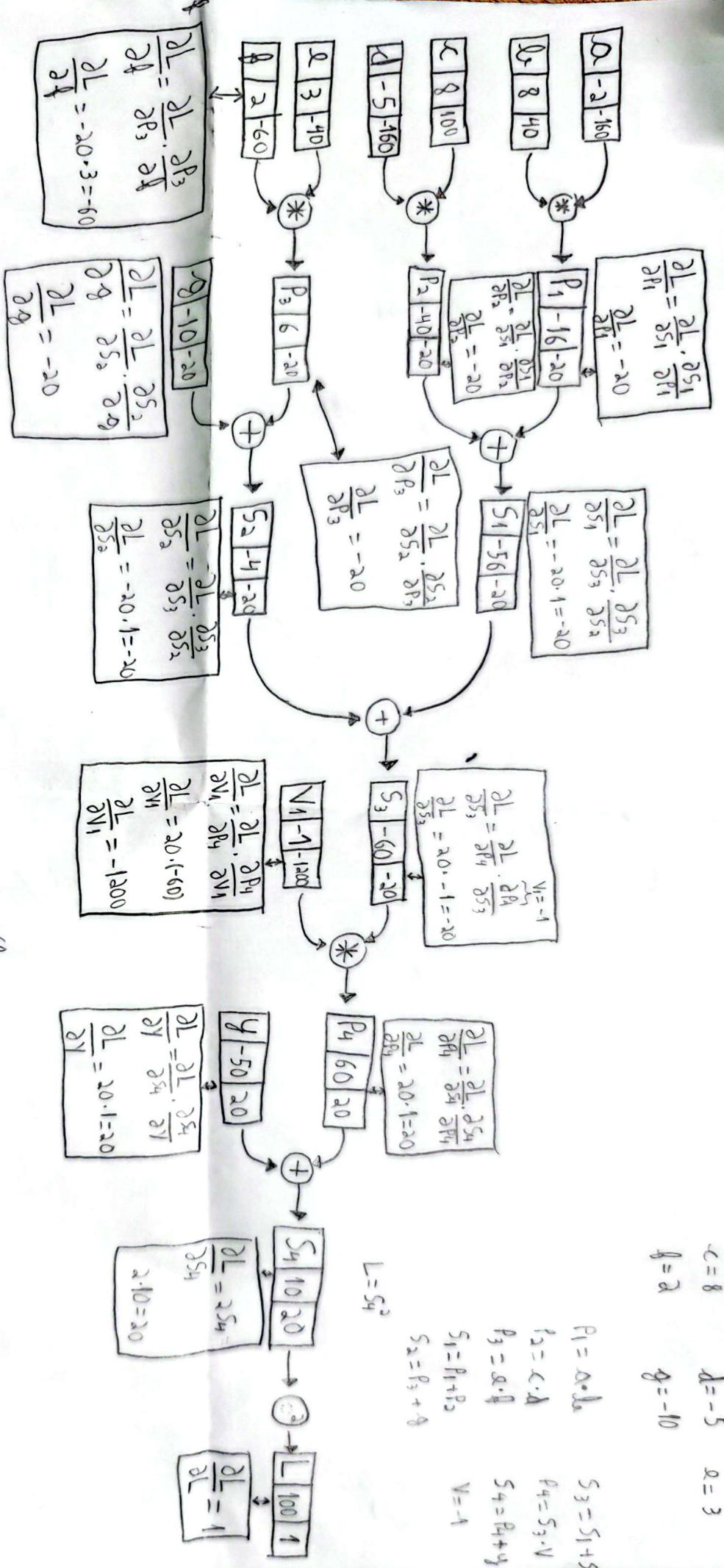
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$$L = (y - (a \cdot b + c \cdot d + e \cdot f + g))^2$$

$y = -50$ $a = -2$ $b = 8$
 $c = 8$ $d = -5$ $e = 3$
 $f = 2$ $g = -10$

$P_1 = a \cdot b$ $S_3 = S_1 + S_2$
 $P_2 = c \cdot d$ $P_4 = S_3 \cdot V$
 $P_3 = e \cdot f$ $S_4 = P_4 + y$
 $S_2 = P_3 + g$ $V = -1$

$$L = S_4^2$$



$$\frac{\partial L}{\partial a} = \frac{\partial L}{\partial P_1} \cdot \frac{\partial P_1}{\partial a} = 2500 \cdot 8 = 20000$$

$$\frac{\partial L}{\partial b} = \frac{\partial L}{\partial P_1} \cdot \frac{\partial P_1}{\partial b} = 2500 \cdot (-2) = -5000$$

$$\frac{\partial L}{\partial c} = \frac{\partial L}{\partial P_2} \cdot \frac{\partial P_2}{\partial c} = 2500 \cdot (-5) = -12500$$

$$\frac{\partial L}{\partial d} = \frac{\partial L}{\partial P_2} \cdot \frac{\partial P_2}{\partial d} = 2500 \cdot 8 = 20000$$

$$\frac{\partial L}{\partial e} = \frac{\partial L}{\partial P_3} \cdot \frac{\partial P_3}{\partial e} = 2500 \cdot 2 = 5000$$

$$\frac{\partial L}{\partial f} = \frac{\partial L}{\partial P_3} \cdot \frac{\partial P_3}{\partial f} = 2500 \cdot 3 = 7500$$

$$\frac{\partial L}{\partial g} = \frac{\partial L}{\partial S_3} \cdot \frac{\partial S_3}{\partial g} = 2500 \cdot 1 = 2500$$

$$\frac{\partial L}{\partial a} = \frac{\partial L}{\partial P_1} \cdot \frac{\partial P_1}{\partial a} = 2500 \cdot 8 = 20000$$

$$\frac{\partial L}{\partial b} = \frac{\partial L}{\partial P_1} \cdot \frac{\partial P_1}{\partial b} = 2500 \cdot (-2) = -5000$$

$$\frac{\partial L}{\partial a} = \frac{\partial L}{\partial P_1} \cdot \frac{\partial P_1}{\partial a} = 2500 \cdot 8 = 20000$$

$$\frac{\partial L}{\partial b} = \frac{\partial L}{\partial P_1} \cdot \frac{\partial P_1}{\partial b} = 2500 \cdot (-2) = -5000$$