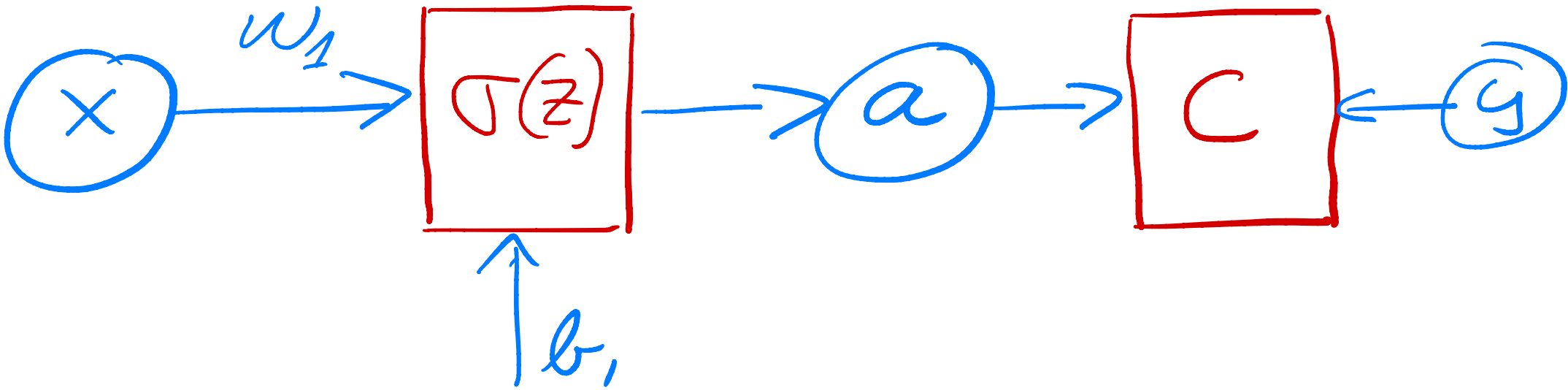
$$z = w_1 x + b_1$$

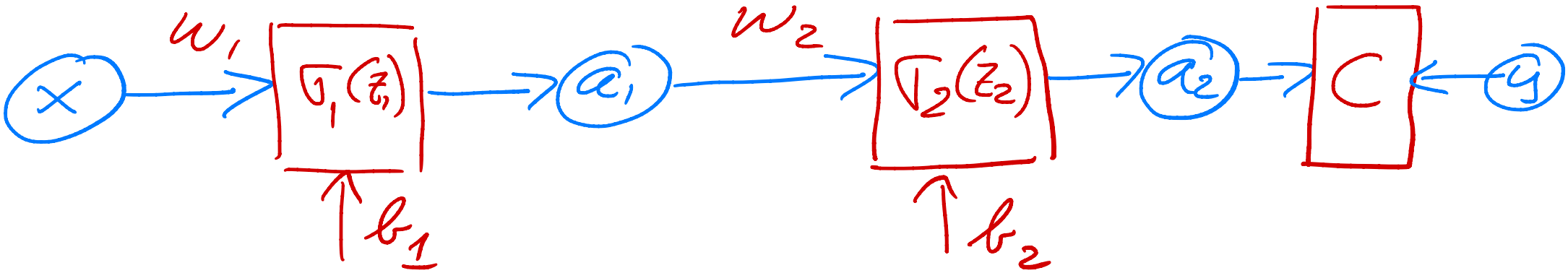


$$C = C(a, y; \Theta)$$

$$\Theta = \{w_1, b_1\}$$

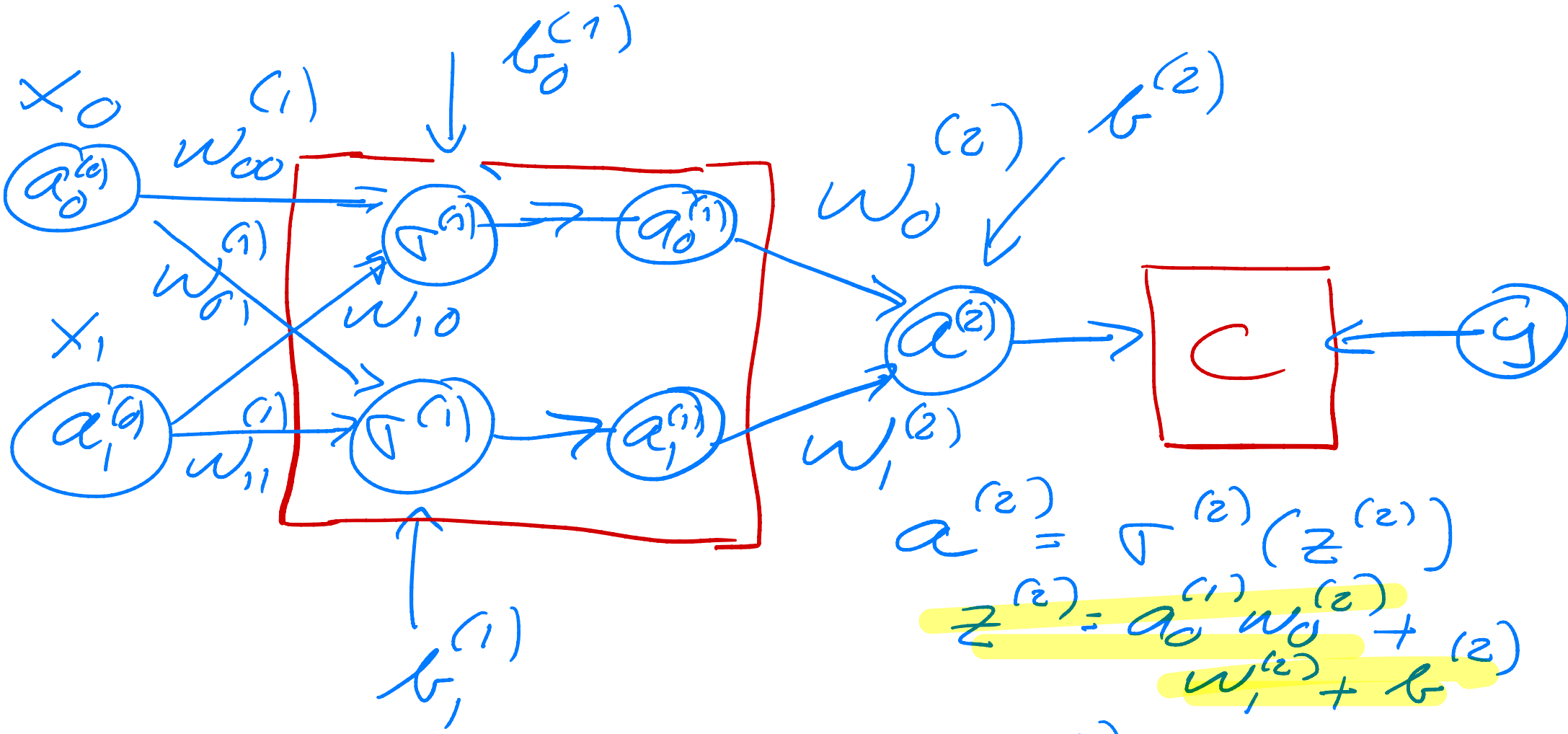
$$z_1 = w_1 x + b_1$$

$$z_2 = w_2 a_1 + b_2$$



$$C = C(a_2, y; \Theta)$$

$$\Theta = \{ w_1, w_2, b_1, b_2 \}$$



$$a^{(2)} = \sigma^{(2)}(z^{(2)})$$

$$z^{(2)} = a_0^{(1)} w_0^{(2)} + w_1^{(2)} + b^{(2)}$$

$$a_0^{(1)} = \sigma^{(1)}(z_0^{(1)}) \quad \wedge \quad z_0^{(1)} = w_{00}^{(1)} a_0^{(0)} + w_{01}^{(1)} a_1^{(0)} + b_0^{(1)}$$

$$a_1^{(1)} = \sigma^{(1)}(z_1^{(1)}) \quad \wedge \quad z_1^{(1)} = w_{10}^{(1)} a_0^{(0)} + w_{11}^{(1)} a_1^{(0)} + b_1^{(0)}$$