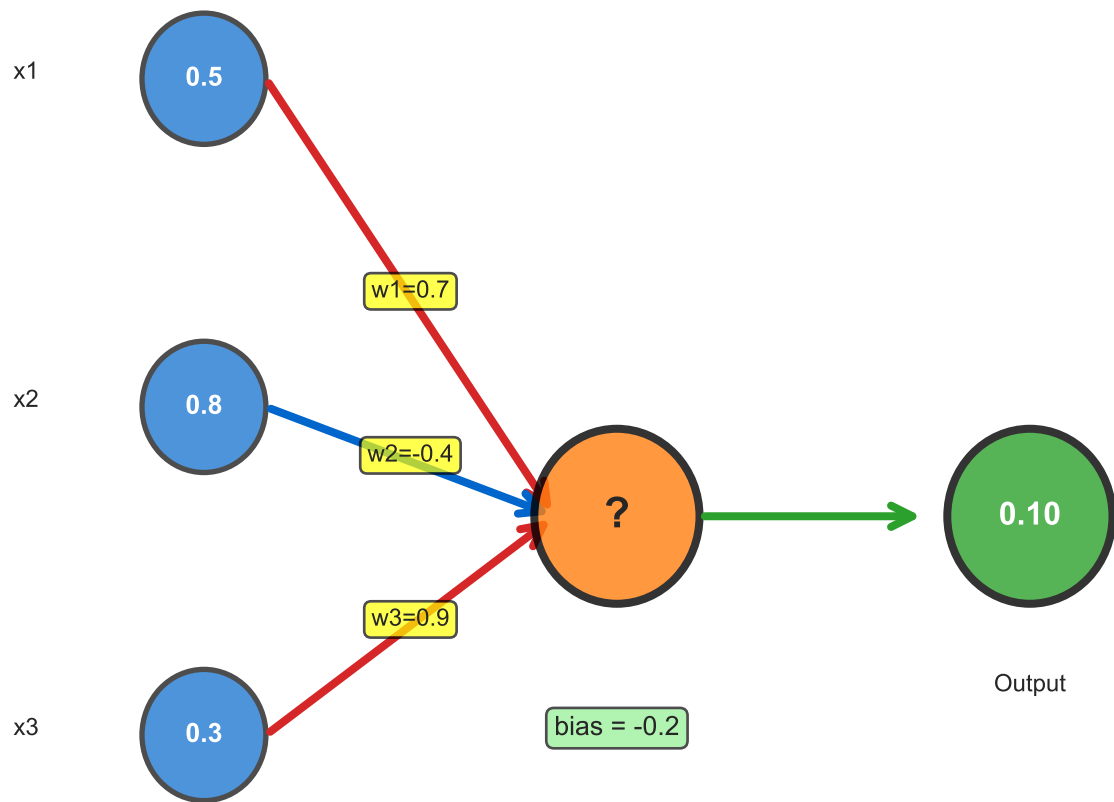


Understanding Neuron Computation

Single Neuron Computation



Detailed Calculation

Step 1: Weighted Sum

$$Z = w_1 \times x_1 + w_2 \times x_2 + w_3 \times x_3 + b$$

$$z = 0.7 \times 0.5 + -0.4 \times 0.8 + 0.9 \times 0.3 + -0.2$$

$$z = 0.35 + -0.32 + 0.27 + -0.2$$

$$z = 0.10$$

Step 2: Apply Activation (ReLU)

$$f(z) = \max(0, z)$$

$$f(0.10) = \max(0, 0.10)$$

$$\text{output} = 0.10$$