

Exercise 2

Binary representation. (4) Layers:

old o/p layer \rightarrow 10

new o/p layer \rightarrow (4) \rightarrow bit wise o/p

wtg and bias = ?

for correct o/p \rightarrow activation func = 0.99

for incorrect o/p \rightarrow activation func = 0.01

Number binary Rep

0 0 0 0 0
 0 0 0 1

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which $Z \geq 0 \Rightarrow 1$, and $Z \leq 0$
 Inhibited neurons $\rightarrow 0, 0.99$
 Excited neurons $\rightarrow 0, 0.99$ sign
 bias values highly dependent on ~~weights~~

to achieve what we needed,
 $W=1$ for ones $W=0$ for zeros
 $b=-0.5$

Case 1:

$$\begin{aligned} Z &= (1) (0.99) - 0.5 \\ &= (0.99) + 0.05 \\ &= 0.99 + 0.05 \\ &= 1.04 \end{aligned}$$

Case 2:

$$\begin{aligned} Z &= (0) (0.99) - 0.5 \\ &= 0 + 0.05 \\ &= 0.05 \end{aligned}$$

$$Z \leq 0$$

This works correct.

Input: $(0, 0.99)$ output: 0.05

$\{(1, 0.99)\}$ - one point up

$\{(0, 0.99)\}$ - one point up

$\{(0, 0.99)\}$ - one point up

$\{(0)\}$ - one point up

at first all of seeds been used

$\Delta \in \mathbb{R}$