WEEK -2

LOB LOGBOOK

NAME - LIKHITHA MAHADEVA

SID NUMBER - 2458682

ASSIGNMENT - WEEK 1

Accuracy :0.845

Code :

```
[23]: print(model.summary())
```

```
Model: "sequential"
```

Layer (type)	Output Shape	Param #
dense (Dense)	(None, 10)	350
dense_1 (Dense)	(None, 8)	88
dense_2 (Dense)	(None, 1)	9

```
Total params: 447 (1.75 KB)
Trainable params: 447 (1.75 KB)
Non-trainable params: 0 (0.00 B)
None
```

The architecture table will differ from the one below and will depend on the number of layers and cells you selected above. However, the overall appearance of the table will be similar.

- x1=6.3079
- x2=8.7762
- x3=15.3584
- x4=13.1643

All input weights = **0.2**

h1=h2=8.7214

Weights = **0.1**

h3=h4=1.7443
Bias = **1 × 0.5**
Weights = **0.3**

O1=0.8244
O2=0.8244

Sum:

$w_1, w_2, w_3, w_4, w_5, w_6, w_7, w_8 = 0.2$

$w_9 = w_{10} = w_{11} = w_{12} = 0.1$

$w_{13} = w_{14} = w_{15} = w_{16} = 0.3$.

New var:

$y = \frac{SSID}{8964879}$

$z = b + \sum_{i=1}^{m} w_i x_i$ (↑ inputs)

$b = 0$.

⑤ $z_1 = z_2 = 0.2(x_1 + x_2 + x_3 + x_4)$

$= 0.2 \cdot y(23 + 32 + 56 + 48)$

$= 0.2 \cdot 159 \cdot y = 31.8 \cdot y$

④ $y > 0 \Rightarrow h_1 = h_2 = \text{ReLu}\begin{pmatrix} z_1 \\ z_2 \end{pmatrix} = 31.8 \cdot y$.

⑤ $z_3 = z_4 = 0.1(h_1 + h_2) = 0.1 \cdot 2 \cdot 31.8 \cdot y = 6.36 \cdot y$

⑥ $y > 0 \Rightarrow h_3 = h_4 = \text{ReLu}\begin{pmatrix} z_3 \\ z_4 \end{pmatrix} = 6.36 \cdot y$

⑦ $0.3(h_3 + h_4) = 0.3 \cdot 2 \cdot 6.36 \cdot y = 3.816 \cdot y$

⑧ $z_5 = z_6 = 3.816 \cdot y + 0.5$

⑨ $o_1 = o_2 = \mathcal{Z}\begin{pmatrix} z_5 \\ z_6 \end{pmatrix} = \mathcal{Z}(3.816 \cdot y + 0.5)$

$= \mathcal{Z}\left(3,816 \cdot \frac{SSID}{8964879} + 0.5\right)$

$SSID = 2373000$

$\Rightarrow o_1 = o_2 = \mathcal{Z}\left(3.816 \cdot \frac{2373000}{8964879} + 0.5\right)$

$= \mathcal{Z}(1.5100937)$

$\approx 0,819$