

一、編譯

```
● sharon@LAPTOP-1PRK86T8:~/homework1$ make
gcc -c src/main.c -o build/main.o
gcc -c src/shuff.c -o build/shuff.o
gcc build/main.o build/shuff.o -o bin/main -lm
```

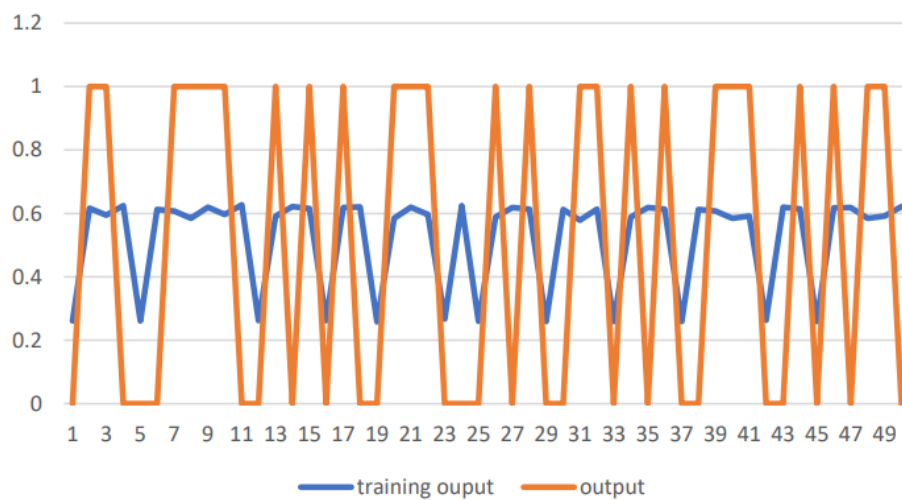
二、執行

Input:0 1	Output:0.980494	Expected Output: 1,	loss:-0.0195061
Input:0 0	Output:0.0153033	Expected Output: 0,	loss:0.0153033
Input:0 0	Output:0.0152993	Expected Output: 0,	loss:0.0152993
Input:0 1	Output:0.980496	Expected Output: 1,	loss:-0.0195038
Input:1 1	Output:0.0221164	Expected Output: 0,	loss:0.0221164
Input:1 0	Output:0.980819	Expected Output: 1,	loss:-0.0191815
Input:1 0	Output:0.980829	Expected Output: 1,	loss:-0.0191711
Input:1 1	Output:0.0221204	Expected Output: 0,	loss:0.0221204
Input:0 1	Output:0.980495	Expected Output: 1,	loss:-0.0195051
Input:0 0	Output:0.0153026	Expected Output: 0,	loss:0.0153026
Input:1 0	Output:0.980829	Expected Output: 1,	loss:-0.0191706
Input:0 0	Output:0.015304	Expected Output: 0,	loss:0.015304
Input:0 1	Output:0.980505	Expected Output: 1,	loss:-0.0194947
Input:1 1	Output:0.0221273	Expected Output: 0,	loss:0.0221273
Input:0 1	Output:0.980502	Expected Output: 1,	loss:-0.0194978
Input:1 0	Output:0.980838	Expected Output: 1,	loss:-0.0191619
Input:0 0	Output:0.0153095	Expected Output: 0,	loss:0.0153095
Input:1 1	Output:0.0221267	Expected Output: 0,	loss:0.0221267
Input:1 0	Output:0.98083	Expected Output: 1,	loss:-0.0191697
Input:1 1	Output:0.0221186	Expected Output: 0,	loss:0.0221186
Input:0 1	Output:0.980496	Expected Output: 1,	loss:-0.0195037
Input:0 0	Output:0.0153014	Expected Output: 0,	loss:0.0153014
Input:0 0	Output:0.0152974	Expected Output: 0,	loss:0.0152974
Input:1 1	Output:0.0221008	Expected Output: 0,	loss:0.0221008
Input:1 0	Output:0.980813	Expected Output: 1,	loss:-0.0191874
Input:0 1	Output:0.980492	Expected Output: 1,	loss:-0.0195078
Input:1 0	Output:0.980831	Expected Output: 1,	loss:-0.0191688
Input:0 1	Output:0.980512	Expected Output: 1,	loss:-0.0194883
Input:0 0	Output:0.0153084	Expected Output: 0,	loss:0.0153084
Input:1 1	Output:0.022125	Expected Output: 0,	loss:0.022125
Input:0 0	Output:0.0152967	Expected Output: 0,	loss:0.0152967
Input:0 1	Output:0.980499	Expected Output: 1,	loss:-0.0195005
Input:1 0	Output:0.980836	Expected Output: 1,	loss:-0.0191644
Input:1 1	Output:0.0221245	Expected Output: 0,	loss:0.0221245
Input:1 1	Output:0.0221044	Expected Output: 0,	loss:0.0221044
Input:0 1	Output:0.98049	Expected Output: 1,	loss:-0.01951

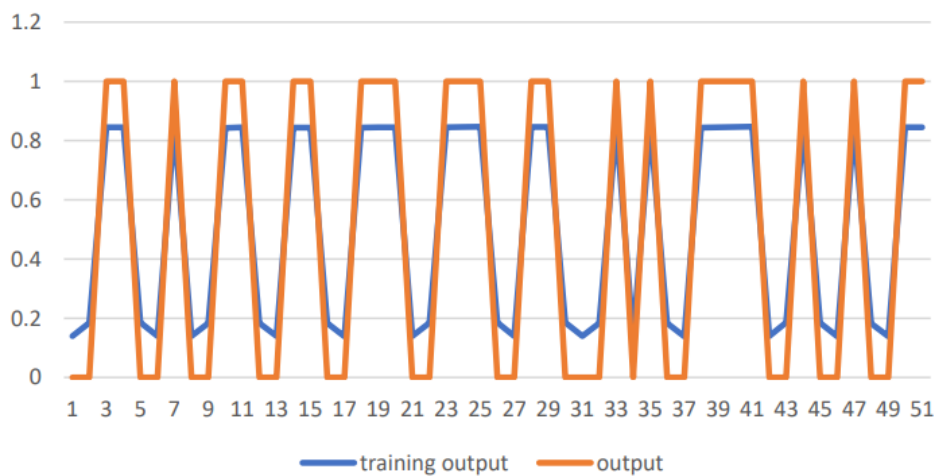
三、 分析

```
Final Hidden Weights  
[ [ 2.197366 2.195197 ] [ 5.088360 5.073705 ] ]  
Final Hidden Biases  
[ -3.159048 -1.496503 ]  
Final Output Weights[ -4.951524 5.265507 ]  
Final Output Biases  
[ -2.433679 ]
```

前50筆訓練資料與真實結果比對圖



後50筆訓練資料與真實結果比對圖



結果顯示訓練後的資料較符合真實結果