Lab Week 11

Task 01 Build an MLP to solve XOR

Questions: Given the XOR table below,

x_1	x_2	x_1 XOR x_2
0	0	0
0	1	1
1	0	1
1	1	0

Develop an MLP to implement it.

Your are handed the solution but make sure you can:

1) run it on CoLab
2) try to understand each line of codes
3) particularly try to understand backpropagation

Task 02 Build a SLP and then an MLP for enemy AI

Questions: Given the game rule table below,

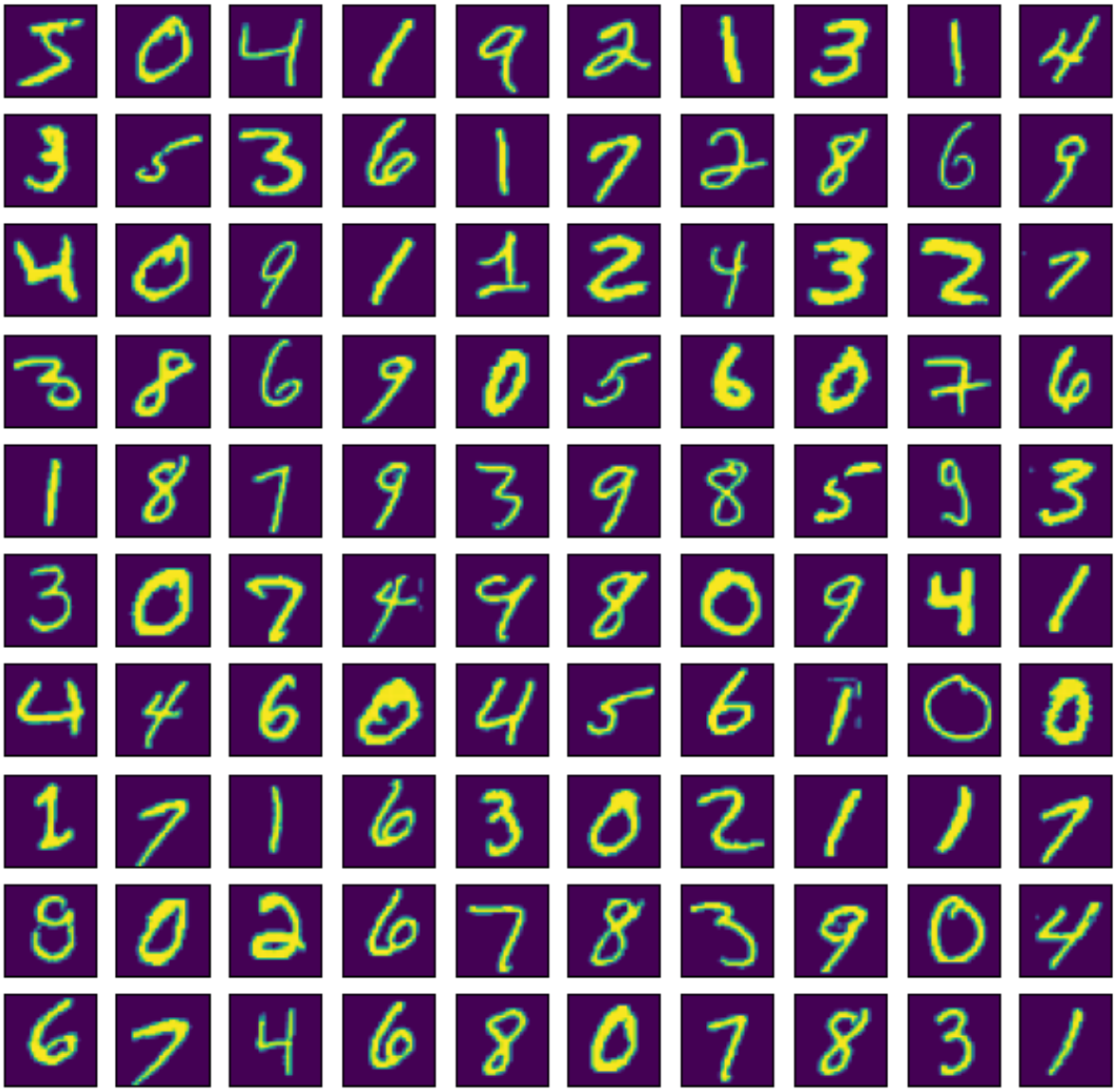
Input			**Output**	
Your Health	***Your Ammo***	***Their Strength***	***Fire***	***Flee***
0.73	0.34	0.49	*Fire*	*Stay*
0.70	0.09	0.66	*Don't*	*Flee*
0.49	0.60	0.61	*Don't*	*Flee*
0.12	0.03	0.31	*Don't*	*Stay*
0.46	0.90	0.91	*Fire*	*Flee*
0.29	0.98	0.34	*Fire*	*Stay*

Develop your SLP and MLP to implement it. Test and compare them with each other using randomly generated values and see which one meets your expectation.

SCC.413 Applied Data Mining Practicals

Challenge for this week:

You are handed a dataset of handwritten digits, MNIST,



The initial script was offered. Please build up your MLP classifier to recognize these patterns – be aware you are required to develop your own backpropagation code, with epoch and batches.