Python 初學者撰寫 Lab1 建議:

1. 瞭解感知器學習演算法(Perceptron Learning Algorithm; PLA)，先練習 10 月 8 日 In-Class Exercises

Use the Perceptron Learning Algorithm (PLA) to train the following examples:

Example	x_1	x_2	**Class**
1	1	0	1
2	1	3	–1

(a) Suppose that initial weights are: $(w_0, w_1, w_2) = (0.0, –0.1, 0.1)$; draw the decision line, $w_0 + w_1x_1 + w_2x_2 = 0$, and two examples on a graph.

(b) Apply PLA to find a decision line that separates two classes of examples. When the algorithm stops, redraw the final decision line and two given training examples.

2. 自行學習 Python 入門，例如可參考書籍或教學網站。

3. 撰寫 PLA 核心程式，若不會讀檔，先以簡單若干筆資料練習，直接在程式給定訓練資料及測試資料。例如：10 筆訓練資料，3 筆測試資料

Example	x_1	x_2	**Class**
1	1	0	1
2	1	3	–1
3	2	–6	1
4	–1	–3	1
5	–5	5	–1
6	5	2	1
7	–2	2	–1
8	–7	2	–1
9	4	–4	1
10	–5	–1	–1

Example	x_1	x_2
1	2	–4
2	–5	1
3	–2	–2

4. 程式正確後，學習讀檔。

5. 學習畫圖(此部分是額外加分)