Machine Learning HW#6

This homework is only a practice for students to get familiar with Neural Network method. It does not require students to separate data into training/test sets nor cross validation.

(1). Write a Python program to read HW6 data file ("hw6_haberman.csv") and train 2 models. There are 306 datasets and a header in the data file. Every dataset contains 3 features and 1 class (1 as living 5+ years, 0 not). Every data is separated by a comma.
編寫一個 Python 程序以讀取 HW6 數據文件（"hw6_haberman.csv"）。整體共計 306 數據集 + header. 除了 header，HW6 數據文件每行是1個數據集(dataset). 每個數據集(每行)包含 3個 features and 1個 classification (0 是 5年內死亡，1 是活5年以上). 每個數據都用逗號分隔.

(2). Use the entire 306 datasets as the training data.

(3). Use Scikit-learn Neural Network method **MLPClassifier** and SVM method **SVC**, and train your model with given 306 data.

(4). You are to train the models (both) which produce training score above 0.90. It takes me several trials to reach 0.92 & 0.94 respectively. The models are likely *overfitting*, but that is not of concern in this HW.

(5). You can import the **MLP** and **SVC** classifiers as show below, and set parameters to get training scores.

from sklearn.neural_network import MLPClassifier
from sklearn.svm import SVC

(6). The parameters for **MLP** can contain (but not limited to) *hidden_layer_sizes, solver, activation*.

(7). The parameters for **SVC** can contain (but not limited to) *C, gamma, kernel*.

(8). Estimate Work Time: 1-3 hours. 估計所需時間：1-3小時

(9). Due on 2022.12.16 before the class. You are to submit your python code " yourID_name_MLP_HW6.py" with a print-screen image " yourID_name_MLP_result.jpg" of training scores and MLP/SVC parameters that give training score above 0.90.

截止時間：2022年12月16日上課之前提交python 程序" yourID_name_MLP_HW6.py"和 print-screen 圖 of the training score and the parameters which makes your score above 0.90.

(10). The shell window output (sample, without parameters) from my code

```
MLP training score: 0.915
SVC training score: 0.938
```