Machine Learning Exercise 1

A few notes regarding the exercise:

Two files are provided: one jupyter notebook and one python file.

There is an empty directory named images.

This is where all the images from the scripts are stored.

The *day.csv* file that will be parsed should be in the same directory as these files, alternatively you could provide a path to it as well. It is also delivered within the project.

The package requirements for the python file can be found in the *requirements.txt* It was created using Python 3.8

They can be installed to your python environment via the command: pip install -r requirements.txt

All comments regarding the code are in the files.

The main difference between the notebook file and the python one is that the python file can be run with arguments.

```
t/d/PycharmProjects/machine_learning_master_2020/exercise_1 [main 🛭 2…1]
15:24 $ python3 exercise 1.py --help
usage: exercise_1.py [-h] [-c CLASSES] [-eb EPOCHS_B] [-ec EPOCHS_C] [-fp FILE_PATH]
optional arguments:
 -h, --help
                      show this help message and exit
 -c CLASSES, --classes CLASSES
                      The number of classes for the classification problem 1 a Defaults to 10 classes. Notice that
                      since there are not a lot of data in day.csv file the less classes used, the better the
                       prediction will be.
 -eb EPOCHS_B, --epochs_b EPOCHS_B
                      Number of epochs to be used in question 1B, for the single instance error loss plotting,
                      defaults to 15
 -ec EPOCHS_C, --epochs_c EPOCHS_C
                      Number of epochs to be used in question 1C, for the error loss plotting, defaults to 15
 -fp FILE_PATH, --file_path FILE_PATH
                       The path to the csv file that will be parsed. Defaults to day.csv. (assumed that it will be in
                       the same directory as this script)
```