Assignment 1

1. Download CIFAR 10 dataset
2. Use the CIFAR's dataloader or write your own dataloader
3. Read training images and labels in the numpy arrays.
4. Train them using Nearest Neighborhood Classifier.
5. Read the Test images and predict the test images with your nearest neighborhood classifier.
6. Calculate the confusion matrix, accuracy, and F1 score
7. Modify your code for kNN classifier. Change K =3,5 and compare the performance

Goal:

- Understand the basic **Image Classification pipeline** and the data-driven approach (train/predict stages)
- Develop proficiency in writing efficient **vectorized** code with numpy
- Implement and apply a k-Nearest Neighbor (**kNN**) classifier