Assignment 3

- In this assignment, you will train a model from scratch on the CIFAR10 dataset and perform image classification.
- Submit the assignment as a Jupyter notebook
- You can refer to the following resources: https://youtube.com/playlist?list=PLqnslRFeH2UrcDBWF5mfPGpqQDSta6VK4&si=ZXeT09xBwJomLcHl (lec 1 to 17)

  https://huggingface.co/learn/computer-vision-course

Assignment outline:

1. Setting Up the Environment:
    a. Import necessary libraries like PyTorch, Numpy and Matplotlib
    b. Ensure you have access to a Gpu for faster training (you may use Google Colab or Kaggle)

2. Data Preprocessing:
    a. Load the CIFAR-10 dataset and split it into training, validation and test sets
    b. Normalize the image pixels

3. Build the model:
    a. Build any model architecture of your choice (you may use a simple CNN architecture as well).
    b. Choose an appropriate loss function and optimizer

4. Training the model:
    a. Perform the training loop
    b. Plot training and validation loss

5. Model evaluation:
    a. Evaluate the model by simply calculating the accuracy on the test set
    b. Save the model in a file named model.pth