Assignment II:

In this assignment, you will use transfer learning to classify images from a new dataset. You will start by using a pre-trained model as a fixed feature extractor to perform binary classification on the provided dataset, and then fine-tune the model and test it again on the dataset.

1. Download the Cars-vs-Trucks dataset and split it into training and validation sets.
2. Load a pre-trained CNN for image classification, from a PyTorch or Keras model zoo.
3. Freeze the weights of all but the last few convolutional layers of the pre-trained CNN.
4. Replace the last layer(s) of the pre-trained CNN with a new layer(s) for binary classification.
5. Train only the classification layer(s) of the model on the dataset, keeping the convolutional layers fixed.
6. Evaluate the model on the dataset and report the accuracy metric.
7. Fine-tune some of the convolutional layers of the model by unfreezing them and training the entire model on the dataset.
8. Evaluate the fine-tuned model on the dataset and report the accuracy metric.
9. Optional: Experiment with different pre-trained models, loss functions, and hyperparameters to improve the classification performance.

**** Submission Notes:** Complete your code and upload the full Notebook to this drive link. The Notebook should contain your name.