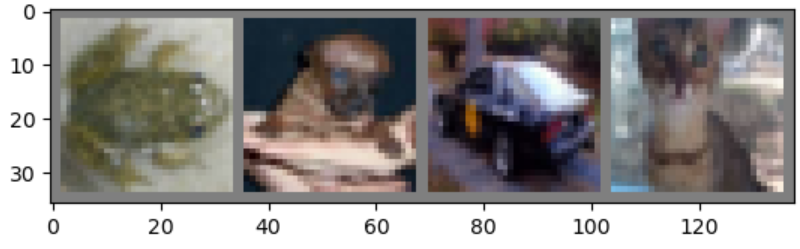
Assignment 4

**Task 1**

Example images from the training set and their labels -



GroundTruth:  frog  dog   car   cat

Model training –

[1,  2000] loss: 2.221

[1,  4000] loss: 1.826

[1,  6000] loss: 1.668

[1,  8000] loss: 1.584

[1, 10000] loss: 1.557

[1, 12000] loss: 1.488

[2,  2000] loss: 1.426

[2,  4000] loss: 1.401

[2,  6000] loss: 1.391

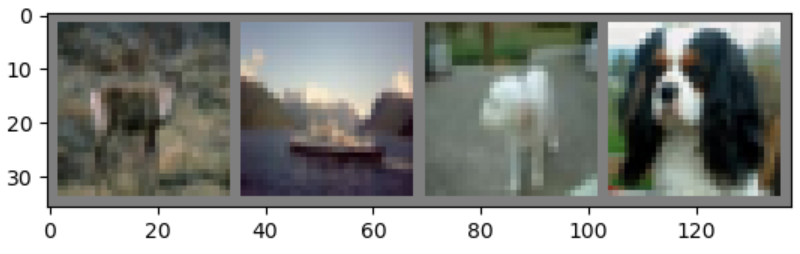
[2,  8000] loss: 1.358

[2, 10000] loss: 1.323

[2, 12000] loss: 1.345

We can see the loss is getting lower the further into training we go.

Testing the model –



GroundTruth:  deer  ship  dog   dog

Predicted:  frog  ship  dog   dog

Accuracy of the network on the 10000 test images: 52.8 %

Accuracy for class: plane is 46.9 %

Accuracy for class: car   is 74.1 %

Accuracy for class: bird  is 29.3 %

Accuracy for class: cat   is 21.0 %

Accuracy for class: deer  is 29.3 %

Accuracy for class: dog   is 57.9 %

Accuracy for class: frog  is 74.4 %

Accuracy for class: horse is 59.5 %

Accuracy for class: ship  is 82.8 %

Accuracy for class: truck is 52.8 %

The model achieved 52.8% overall accuracy. Compared to a random guess between the 10 classes (which would have given us 10%) we can say that the model has learnt to classify the dataset.

We can also see that on some classes like ship or frog the model did very well while on classes like cat or deer it did worse.

**Task 2**