

```

model= models.resnet50(pretrained=True)
for param in model.parameters():
    param.requires_grad = False
fc_inputs = model.fc.in_features
model.fc = nn.Sequential(
    nn.Linear(fc_inputs, 256),
    nn.ReLU(),
    nn.Dropout(0.4),
    nn.Linear(256, 2), # Since 10 possible outputs
    nn.LogSoftmax(dim=1) # For using NLLLoss()
)

```

**NLLloss function**

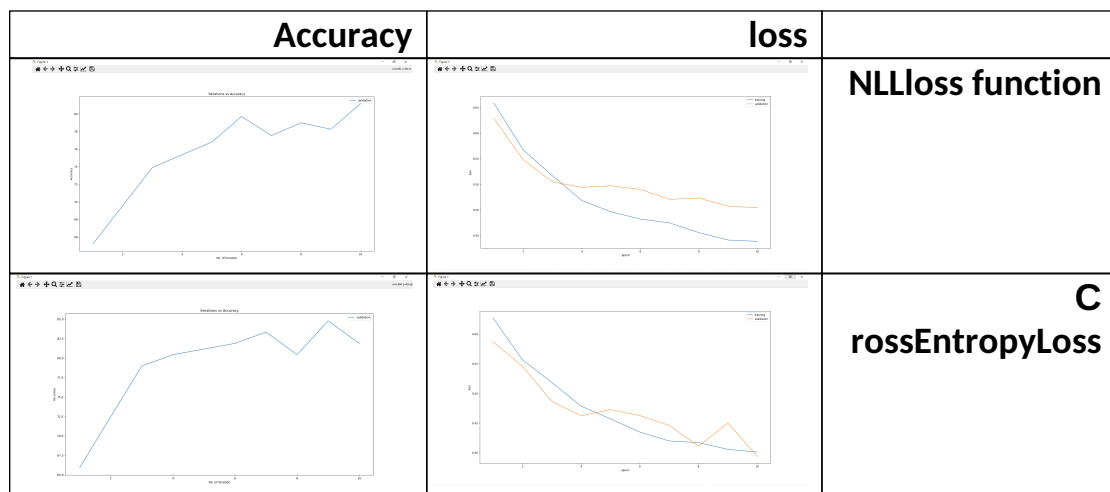
**validation set: Average loss: 0.454317, Accuracy: 112/138 (81%)**

**test set: Average loss: 0.466939, Accuracy: 111/138 (80%)**

**crossEntropyLoss**

**validation set: Average loss: 0.393924, Accuracy: 113/138 (82%)**

**test set: Average loss: 0.451591, Accuracy: 110/138 (80%)**



**: Resnet18**

```

model= models.resnet18(pretrained=True)
num_ftrs = model.fc.in_features
model.fc = torch.nn.Linear(num_ftrs, 2)
print(model)

```

## NLLloss function

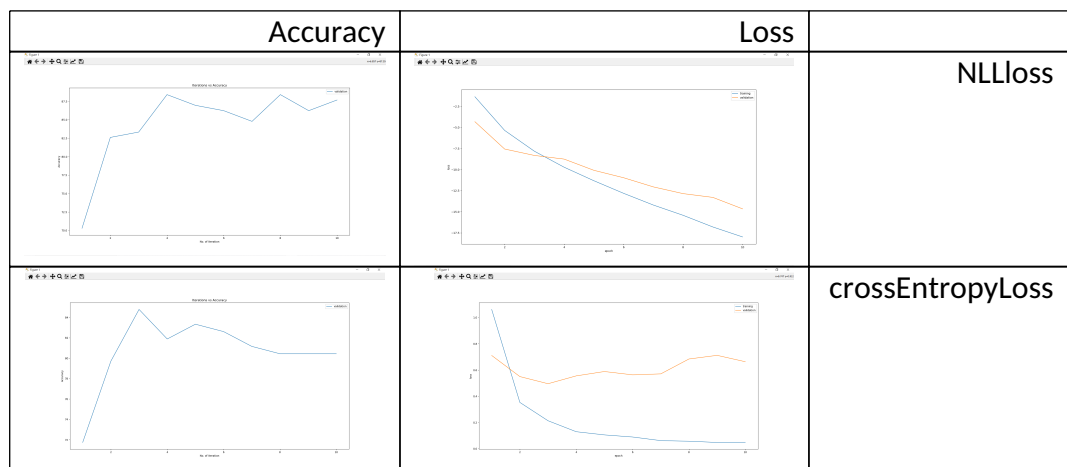
validation set: Average loss: -17.008425, Accuracy: 122/138 (88%)

test set: Average loss: -17.043915, Accuracy: 124/138 (90%)

## crossEntropyLoss

validation set: Average loss: 0.362180, Accuracy: 122/138 (88%)

test set: Average loss: 0.379125, Accuracy: 118/138 (86%)



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