

caltech_101

February 5, 2020

```
In [0]: #from google.colab import drive
        #drive.mount('/content/drive')

        data_dir = '/content/drive/My Drive/cs461/data'
```

```
In [0]: import matplotlib.pyplot as plt
        %matplotlib inline

        import torch
        import torch.nn as nn
        import torch.nn.functional as F
        import torchvision
        import torchvision.transforms as transforms
```

```
In [0]: class Args:
        def __init__(self):
            self.use_cuda = True
            self.log_interval = 1
            self.train_batch_size = 64
            self.test_batch_size = 64
            self.lr = 0.01
            self.momentum = 0.9
            self.num_epochs = 3
```

```
args = Args()
```

```
In [7]: device = torch.device('cpu')
        if args.use_cuda and torch.cuda.is_available():
            device = torch.device('cuda:0')

        print('Using {}'.format(device))
```

Using cuda:0.

```
In [0]: def prepare_data(args):
        kwargs = {}
        if args.use_cuda and torch.cuda.is_available():
```

```

    kwargs = {'num_workers': 1, 'pin_memory': True}

mean = (0.485, 0.456, 0.406)
std = (0.229, 0.224, 0.225)

train_transform = transforms.Compose([
    transforms.Lambda(lambda x: x.convert('RGB')),
    transforms.RandomResizedCrop(224),
    transforms.RandomHorizontalFlip(),
    transforms.ToTensor(),
    transforms.Normalize(mean, std),
])
test_transform = transforms.Compose([
    transforms.Lambda(lambda x: x.convert('RGB')),
    transforms.Resize(256),
    transforms.CenterCrop(224),
    transforms.ToTensor(),
    transforms.Normalize(mean, std),
])

# Load original data set with training transforms.
dataset = torchvision.datasets.Caltech101(
    root=data_dir, download=True, transform=train_transform)

n = len(dataset)
train_indices = [i for i in range(n) if i % 5 != 0 and i % 5 != 1]
val_indices = [i for i in range(n) if i % 5 == 1]
test_indices = [i for i in range(n) if i % 5 == 0]

# Train.
train_set = torch.utils.data.Subset(dataset, train_indices)
train_loader = torch.utils.data.DataLoader(
    train_set, batch_size=args.train_batch_size, shuffle=True, **kwargs)

# Load original data set with testing transforms.
dataset = torchvision.datasets.Caltech101(
    root=data_dir, download=False, transform=test_transform)

# Val.
val_set = torch.utils.data.Subset(dataset, val_indices)
val_loader = torch.utils.data.DataLoader(
    val_set, batch_size=args.test_batch_size, shuffle=False, **kwargs)

# Test.
test_set = torch.utils.data.Subset(dataset, test_indices)
test_loader = torch.utils.data.DataLoader(
    test_set, batch_size=args.test_batch_size, shuffle=False, **kwargs)

```

```

    return train_set, val_set, test_set, train_loader, val_loader, test_loader

In [9]: train_set, val_set, test_set, train_loader, val_loader, test_loader = prepare_data(args)

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62%|         | 8740864/14028800 [00:02<00:01, 3792424.55it/s]
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82%|         | 11476992/14028800 [00:03<00:00, 4926266.93it/s]
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```

Define the training function.

```
In [0]: def train(args, model, criterion, train_loader, optimizer, device):
    model.train()
    total_loss = 0.
    for i, data in enumerate(train_loader):
        imgs, lbls = data[0].to(device), data[1].to(device)

        optimizer.zero_grad()
        outputs = model(imgs)
        loss = criterion(outputs, lbls)
        loss.backward()
        optimizer.step()

        total_loss += loss.item()
        if (i + 1) % args.log_interval == 0:
            mean_loss = total_loss / args.log_interval
            print(' batch {:4d}: loss={:.3f}'.format(i + 1, mean_loss))
            total_loss = 0.
```

Define the testing function.

```
In [11]: def test(args, model, test_loader, device):
    model.eval()
    total, correct = 0, 0
    with torch.no_grad():
        for data in test_loader:
            imgs, lbls = data[0].to(device), data[1].to(device)
            outputs = model(imgs)
            _, preds = torch.max(outputs.data, 1)
            total += lbls.shape[0]
            correct += (preds == lbls).sum().item()

    acc = correct / total
    print(' acc={:.3f}'.format(acc))
```

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Run training and validation.

```
In [16]: model = torchvision.models.mobilenet_v2(pretrained=True)
    model.classifier[-1] = nn.Linear(model.last_channel, 101)
    model.to(device)

    criterion = nn.CrossEntropyLoss()
    optimizer = torch.optim.SGD(
        model.parameters(),
        lr=args.lr,
        momentum=args.momentum
    )
```

```

args.lr = 0.005
args.num_epochs = 50

for e in range(args.num_epochs):
    print('Training epoch {}'.format(e))
    train(args, model, criterion, train_loader, optimizer, device)
    print('Testing on validation set')
    test(args, model, val_loader, device)

test(args, model, test_loader, device)

```

Downloading: "https://download.pytorch.org/models/mobilenet_v2-b0353104.pth" to /root/.cache/tor

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Training epoch 0

```

batch    1: loss=4.709
batch    2: loss=4.617
batch    3: loss=4.690
batch    4: loss=4.437
batch    5: loss=4.321
batch    6: loss=4.100
batch    7: loss=4.224
batch    8: loss=3.464
batch    9: loss=3.558
batch   10: loss=3.634
batch   11: loss=3.670
batch   12: loss=3.510
batch   13: loss=3.569
batch   14: loss=3.395
batch   15: loss=3.562
batch   16: loss=2.827
batch   17: loss=3.026
batch   18: loss=3.367
batch   19: loss=2.984
batch   20: loss=2.737
batch   21: loss=3.318
batch   22: loss=3.693
batch   23: loss=3.256
batch   24: loss=2.967
batch   25: loss=2.972
batch   26: loss=3.447

```

batch 27: loss=2.661
batch 28: loss=3.007
batch 29: loss=2.804
batch 30: loss=2.590
batch 31: loss=3.261
batch 32: loss=2.531
batch 33: loss=2.364
batch 34: loss=2.690
batch 35: loss=2.452
batch 36: loss=2.607
batch 37: loss=2.461
batch 38: loss=2.977
batch 39: loss=2.651
batch 40: loss=2.593
batch 41: loss=2.750
batch 42: loss=2.606
batch 43: loss=2.425
batch 44: loss=2.668
batch 45: loss=2.565
batch 46: loss=2.308
batch 47: loss=2.234
batch 48: loss=1.879
batch 49: loss=2.321
batch 50: loss=2.004
batch 51: loss=2.103
batch 52: loss=2.331
batch 53: loss=2.638
batch 54: loss=2.329
batch 55: loss=2.321
batch 56: loss=1.953
batch 57: loss=1.836
batch 58: loss=2.035
batch 59: loss=2.286
batch 60: loss=2.178
batch 61: loss=2.074
batch 62: loss=2.139
batch 63: loss=1.813
batch 64: loss=1.717
batch 65: loss=2.032
batch 66: loss=1.944
batch 67: loss=1.985
batch 68: loss=1.749
batch 69: loss=1.663
batch 70: loss=2.091
batch 71: loss=1.388
batch 72: loss=2.128
batch 73: loss=1.840
batch 74: loss=1.822

```
batch 75: loss=1.468
batch 76: loss=1.566
batch 77: loss=2.070
batch 78: loss=1.545
batch 79: loss=1.802
batch 80: loss=1.641
batch 81: loss=1.541
batch 82: loss=2.516
Testing on validation set
acc=0.713
```

Training epoch 1

```
batch 1: loss=1.542
batch 2: loss=1.567
batch 3: loss=1.465
batch 4: loss=1.448
batch 5: loss=1.472
batch 6: loss=1.492
batch 7: loss=1.504
batch 8: loss=1.174
batch 9: loss=1.099
batch 10: loss=1.468
batch 11: loss=1.784
batch 12: loss=1.487
batch 13: loss=1.535
batch 14: loss=1.158
batch 15: loss=1.337
batch 16: loss=1.200
batch 17: loss=1.252
batch 18: loss=1.331
batch 19: loss=1.310
batch 20: loss=1.055
batch 21: loss=1.240
batch 22: loss=1.226
batch 23: loss=1.402
batch 24: loss=1.312
batch 25: loss=1.066
batch 26: loss=1.309
batch 27: loss=1.112
batch 28: loss=1.183
batch 29: loss=1.087
batch 30: loss=1.241
batch 31: loss=1.043
batch 32: loss=1.132
batch 33: loss=1.076
batch 34: loss=1.418
batch 35: loss=1.003
batch 36: loss=1.122
batch 37: loss=1.694
```

```
batch 38: loss=1.158
batch 39: loss=1.272
batch 40: loss=1.248
batch 41: loss=1.219
batch 42: loss=1.132
batch 43: loss=1.202
batch 44: loss=1.282
batch 45: loss=0.808
batch 46: loss=1.359
batch 47: loss=1.053
batch 48: loss=1.095
batch 49: loss=1.402
batch 50: loss=1.165
batch 51: loss=1.138
batch 52: loss=0.970
batch 53: loss=1.176
batch 54: loss=0.964
batch 55: loss=1.252
batch 56: loss=0.960
batch 57: loss=1.110
batch 58: loss=1.206
batch 59: loss=1.196
batch 60: loss=1.089
batch 61: loss=1.025
batch 62: loss=1.184
batch 63: loss=0.995
batch 64: loss=0.844
batch 65: loss=0.979
batch 66: loss=0.858
batch 67: loss=1.190
batch 68: loss=1.078
batch 69: loss=0.756
batch 70: loss=1.372
batch 71: loss=0.759
batch 72: loss=0.950
batch 73: loss=0.894
batch 74: loss=0.942
batch 75: loss=1.021
batch 76: loss=1.085
batch 77: loss=0.837
batch 78: loss=0.863
batch 79: loss=0.863
batch 80: loss=1.208
batch 81: loss=0.861
batch 82: loss=1.049
Testing on validation set
acc=0.844
Training epoch 2
```


batch 1: loss=0.815
batch 2: loss=0.808
batch 3: loss=1.037
batch 4: loss=0.747
batch 5: loss=1.129
batch 6: loss=1.208
batch 7: loss=0.903
batch 8: loss=0.624
batch 9: loss=0.892
batch 10: loss=1.059
batch 11: loss=1.004
batch 12: loss=0.621
batch 13: loss=0.754
batch 14: loss=0.625
batch 15: loss=1.104
batch 16: loss=0.943
batch 17: loss=0.939
batch 18: loss=0.946
batch 19: loss=0.819
batch 20: loss=0.878
batch 21: loss=0.880
batch 22: loss=0.741
batch 23: loss=0.812
batch 24: loss=0.867
batch 25: loss=0.657
batch 26: loss=1.019
batch 27: loss=0.732
batch 28: loss=0.871
batch 29: loss=0.724
batch 30: loss=0.917
batch 31: loss=0.820
batch 32: loss=0.728
batch 33: loss=0.808
batch 34: loss=0.676
batch 35: loss=0.758
batch 36: loss=0.740
batch 37: loss=0.645
batch 38: loss=0.563
batch 39: loss=0.713
batch 40: loss=0.828
batch 41: loss=1.064
batch 42: loss=0.949
batch 43: loss=1.007
batch 44: loss=0.509
batch 45: loss=0.792
batch 46: loss=0.635
batch 47: loss=0.778
batch 48: loss=0.829

batch 49: loss=0.756
batch 50: loss=0.659
batch 51: loss=1.190
batch 52: loss=0.901
batch 53: loss=0.937
batch 54: loss=0.679
batch 55: loss=0.801
batch 56: loss=0.960
batch 57: loss=0.988
batch 58: loss=0.667
batch 59: loss=0.877
batch 60: loss=0.845
batch 61: loss=0.544
batch 62: loss=0.975
batch 63: loss=0.625
batch 64: loss=0.638
batch 65: loss=0.692
batch 66: loss=0.648
batch 67: loss=0.720
batch 68: loss=0.940
batch 69: loss=0.625
batch 70: loss=0.963
batch 71: loss=0.971
batch 72: loss=0.524
batch 73: loss=0.664
batch 74: loss=0.894
batch 75: loss=0.664
batch 76: loss=0.804
batch 77: loss=0.700
batch 78: loss=0.625
batch 79: loss=0.714
batch 80: loss=0.781
batch 81: loss=0.647
batch 82: loss=0.570

Testing on validation set

acc=0.877

Training epoch 3

batch 1: loss=0.684
batch 2: loss=0.507
batch 3: loss=0.422
batch 4: loss=0.542
batch 5: loss=0.802
batch 6: loss=0.730
batch 7: loss=0.595
batch 8: loss=0.428
batch 9: loss=0.377
batch 10: loss=0.683
batch 11: loss=0.735

batch 12: loss=0.576
batch 13: loss=0.730
batch 14: loss=0.598
batch 15: loss=0.753
batch 16: loss=0.794
batch 17: loss=0.570
batch 18: loss=0.337
batch 19: loss=0.521
batch 20: loss=0.410
batch 21: loss=0.587
batch 22: loss=0.824
batch 23: loss=0.390
batch 24: loss=0.565
batch 25: loss=0.620
batch 26: loss=0.725
batch 27: loss=0.590
batch 28: loss=0.689
batch 29: loss=0.719
batch 30: loss=0.433
batch 31: loss=0.791
batch 32: loss=0.676
batch 33: loss=0.570
batch 34: loss=0.446
batch 35: loss=0.933
batch 36: loss=0.552
batch 37: loss=0.576
batch 38: loss=0.530
batch 39: loss=0.735
batch 40: loss=0.621
batch 41: loss=0.706
batch 42: loss=0.899
batch 43: loss=0.794
batch 44: loss=0.952
batch 45: loss=0.657
batch 46: loss=0.611
batch 47: loss=0.686
batch 48: loss=0.725
batch 49: loss=0.703
batch 50: loss=0.586
batch 51: loss=0.784
batch 52: loss=0.456
batch 53: loss=0.845
batch 54: loss=0.834
batch 55: loss=0.673
batch 56: loss=0.661
batch 57: loss=0.429
batch 58: loss=0.679
batch 59: loss=0.452

```
batch 60: loss=0.815
batch 61: loss=0.555
batch 62: loss=0.755
batch 63: loss=0.560
batch 64: loss=0.746
batch 65: loss=0.707
batch 66: loss=0.683
batch 67: loss=0.594
batch 68: loss=0.757
batch 69: loss=0.736
batch 70: loss=0.702
batch 71: loss=0.783
batch 72: loss=0.812
batch 73: loss=0.436
batch 74: loss=0.676
batch 75: loss=0.533
batch 76: loss=0.513
batch 77: loss=0.629
batch 78: loss=0.745
batch 79: loss=0.726
batch 80: loss=0.937
batch 81: loss=0.444
batch 82: loss=0.887
Testing on validation set
acc=0.887
```

Training epoch 4

```
batch 1: loss=0.592
batch 2: loss=0.575
batch 3: loss=0.603
batch 4: loss=0.545
batch 5: loss=0.522
batch 6: loss=0.618
batch 7: loss=0.760
batch 8: loss=0.672
batch 9: loss=0.378
batch 10: loss=0.730
batch 11: loss=0.554
batch 12: loss=0.583
batch 13: loss=0.661
batch 14: loss=0.390
batch 15: loss=0.455
batch 16: loss=0.596
batch 17: loss=0.668
batch 18: loss=0.594
batch 19: loss=0.669
batch 20: loss=0.438
batch 21: loss=0.694
batch 22: loss=0.311
```

batch 23: loss=0.808
batch 24: loss=0.261
batch 25: loss=0.490
batch 26: loss=0.660
batch 27: loss=0.551
batch 28: loss=0.500
batch 29: loss=0.465
batch 30: loss=0.699
batch 31: loss=0.425
batch 32: loss=0.687
batch 33: loss=0.394
batch 34: loss=0.810
batch 35: loss=0.675
batch 36: loss=0.548
batch 37: loss=0.859
batch 38: loss=0.568
batch 39: loss=0.613
batch 40: loss=0.388
batch 41: loss=0.486
batch 42: loss=0.671
batch 43: loss=0.501
batch 44: loss=0.385
batch 45: loss=0.508
batch 46: loss=0.607
batch 47: loss=0.529
batch 48: loss=0.487
batch 49: loss=0.403
batch 50: loss=0.721
batch 51: loss=0.530
batch 52: loss=0.381
batch 53: loss=0.456
batch 54: loss=0.572
batch 55: loss=0.700
batch 56: loss=0.401
batch 57: loss=0.659
batch 58: loss=0.455
batch 59: loss=0.594
batch 60: loss=0.487
batch 61: loss=0.528
batch 62: loss=0.501
batch 63: loss=0.378
batch 64: loss=0.611
batch 65: loss=0.681
batch 66: loss=0.427
batch 67: loss=0.556
batch 68: loss=0.640
batch 69: loss=0.747
batch 70: loss=0.605

batch 71: loss=0.326
batch 72: loss=0.342
batch 73: loss=0.518
batch 74: loss=0.491
batch 75: loss=0.550
batch 76: loss=0.537
batch 77: loss=0.476
batch 78: loss=0.420
batch 79: loss=0.514
batch 80: loss=0.766
batch 81: loss=0.590
batch 82: loss=0.306
Testing on validation set
acc=0.897

Training epoch 5

batch 1: loss=0.367
batch 2: loss=0.393
batch 3: loss=0.582
batch 4: loss=0.726
batch 5: loss=0.461
batch 6: loss=0.616
batch 7: loss=0.622
batch 8: loss=0.655
batch 9: loss=0.516
batch 10: loss=0.425
batch 11: loss=0.384
batch 12: loss=0.686
batch 13: loss=0.408
batch 14: loss=0.629
batch 15: loss=0.398
batch 16: loss=0.650
batch 17: loss=0.686
batch 18: loss=0.466
batch 19: loss=0.335
batch 20: loss=0.398
batch 21: loss=0.424
batch 22: loss=0.321
batch 23: loss=0.376
batch 24: loss=0.466
batch 25: loss=0.395
batch 26: loss=0.477
batch 27: loss=0.266
batch 28: loss=0.645
batch 29: loss=0.797
batch 30: loss=0.436
batch 31: loss=0.343
batch 32: loss=0.594
batch 33: loss=0.465

batch 34: loss=0.651
batch 35: loss=0.510
batch 36: loss=0.565
batch 37: loss=0.423
batch 38: loss=0.433
batch 39: loss=0.633
batch 40: loss=0.581
batch 41: loss=0.457
batch 42: loss=0.645
batch 43: loss=0.418
batch 44: loss=0.582
batch 45: loss=0.419
batch 46: loss=0.363
batch 47: loss=0.363
batch 48: loss=0.617
batch 49: loss=0.768
batch 50: loss=0.727
batch 51: loss=0.391
batch 52: loss=0.378
batch 53: loss=0.579
batch 54: loss=0.382
batch 55: loss=0.425
batch 56: loss=0.507
batch 57: loss=0.415
batch 58: loss=0.436
batch 59: loss=0.404
batch 60: loss=0.451
batch 61: loss=0.282
batch 62: loss=0.529
batch 63: loss=0.430
batch 64: loss=0.507
batch 65: loss=0.553
batch 66: loss=0.367
batch 67: loss=0.590
batch 68: loss=0.501
batch 69: loss=0.478
batch 70: loss=0.337
batch 71: loss=0.439
batch 72: loss=0.746
batch 73: loss=0.696
batch 74: loss=0.422
batch 75: loss=0.690
batch 76: loss=0.555
batch 77: loss=0.501
batch 78: loss=0.389
batch 79: loss=0.403
batch 80: loss=0.474
batch 81: loss=0.502

batch 82: loss=0.581
Testing on validation set
acc=0.917

Training epoch 6

batch 1: loss=0.533
batch 2: loss=0.466
batch 3: loss=0.204
batch 4: loss=0.489
batch 5: loss=0.467
batch 6: loss=0.544
batch 7: loss=0.608
batch 8: loss=0.486
batch 9: loss=0.483
batch 10: loss=0.481
batch 11: loss=0.393
batch 12: loss=0.347
batch 13: loss=0.511
batch 14: loss=0.404
batch 15: loss=0.557
batch 16: loss=0.557
batch 17: loss=0.458
batch 18: loss=0.439
batch 19: loss=0.232
batch 20: loss=0.367
batch 21: loss=0.511
batch 22: loss=0.614
batch 23: loss=0.414
batch 24: loss=0.479
batch 25: loss=0.500
batch 26: loss=0.403
batch 27: loss=0.432
batch 28: loss=0.452
batch 29: loss=0.404
batch 30: loss=0.858
batch 31: loss=0.446
batch 32: loss=0.328
batch 33: loss=0.272
batch 34: loss=0.245
batch 35: loss=0.464
batch 36: loss=0.355
batch 37: loss=0.442
batch 38: loss=0.304
batch 39: loss=0.384
batch 40: loss=0.350
batch 41: loss=0.445
batch 42: loss=0.392
batch 43: loss=0.512
batch 44: loss=0.330


```
batch 45: loss=0.580
batch 46: loss=0.544
batch 47: loss=0.581
batch 48: loss=0.384
batch 49: loss=0.329
batch 50: loss=0.400
batch 51: loss=0.487
batch 52: loss=0.446
batch 53: loss=0.425
batch 54: loss=0.501
batch 55: loss=0.505
batch 56: loss=0.269
batch 57: loss=0.426
batch 58: loss=0.490
batch 59: loss=0.433
batch 60: loss=0.542
batch 61: loss=0.488
batch 62: loss=0.262
batch 63: loss=0.341
batch 64: loss=0.710
batch 65: loss=0.538
batch 66: loss=0.409
batch 67: loss=0.586
batch 68: loss=0.450
batch 69: loss=0.355
batch 70: loss=0.247
batch 71: loss=0.453
batch 72: loss=0.608
batch 73: loss=0.667
batch 74: loss=0.424
batch 75: loss=0.288
batch 76: loss=0.490
batch 77: loss=0.232
batch 78: loss=0.334
batch 79: loss=0.332
batch 80: loss=0.555
batch 81: loss=0.714
batch 82: loss=0.446
Testing on validation set
acc=0.911
Training epoch 7
batch 1: loss=0.465
batch 2: loss=0.760
batch 3: loss=0.309
batch 4: loss=0.296
batch 5: loss=0.393
batch 6: loss=0.671
batch 7: loss=0.378
```

batch 8: loss=0.543
batch 9: loss=0.498
batch 10: loss=0.271
batch 11: loss=0.630
batch 12: loss=0.402
batch 13: loss=0.409
batch 14: loss=0.209
batch 15: loss=0.659
batch 16: loss=0.335
batch 17: loss=0.526
batch 18: loss=0.384
batch 19: loss=0.269
batch 20: loss=0.378
batch 21: loss=0.520
batch 22: loss=0.693
batch 23: loss=0.528
batch 24: loss=0.273
batch 25: loss=0.387
batch 26: loss=0.354
batch 27: loss=0.455
batch 28: loss=0.447
batch 29: loss=0.407
batch 30: loss=0.583
batch 31: loss=0.313
batch 32: loss=0.498
batch 33: loss=0.484
batch 34: loss=0.623
batch 35: loss=0.432
batch 36: loss=0.172
batch 37: loss=0.441
batch 38: loss=0.399
batch 39: loss=0.748
batch 40: loss=0.380
batch 41: loss=0.280
batch 42: loss=0.437
batch 43: loss=0.434
batch 44: loss=0.352
batch 45: loss=0.386
batch 46: loss=0.494
batch 47: loss=0.438
batch 48: loss=0.393
batch 49: loss=0.259
batch 50: loss=0.487
batch 51: loss=0.480
batch 52: loss=0.308
batch 53: loss=0.409
batch 54: loss=0.405
batch 55: loss=0.455

batch 56: loss=0.302
batch 57: loss=0.368
batch 58: loss=0.550
batch 59: loss=0.496
batch 60: loss=0.299
batch 61: loss=0.272
batch 62: loss=0.324
batch 63: loss=0.303
batch 64: loss=0.492
batch 65: loss=0.536
batch 66: loss=0.428
batch 67: loss=0.410
batch 68: loss=0.246
batch 69: loss=0.469
batch 70: loss=0.258
batch 71: loss=0.557
batch 72: loss=0.676
batch 73: loss=0.595
batch 74: loss=0.376
batch 75: loss=0.309
batch 76: loss=0.559
batch 77: loss=0.300
batch 78: loss=0.440
batch 79: loss=0.398
batch 80: loss=0.446
batch 81: loss=0.465
batch 82: loss=1.442

Testing on validation set
acc=0.918

Training epoch 8

batch 1: loss=0.239
batch 2: loss=0.345
batch 3: loss=0.502
batch 4: loss=0.650
batch 5: loss=0.420
batch 6: loss=0.248
batch 7: loss=0.243
batch 8: loss=0.443
batch 9: loss=0.380
batch 10: loss=0.358
batch 11: loss=0.527
batch 12: loss=0.229
batch 13: loss=0.444
batch 14: loss=0.382
batch 15: loss=0.407
batch 16: loss=0.352
batch 17: loss=0.593
batch 18: loss=0.317

batch 19: loss=0.484
batch 20: loss=0.499
batch 21: loss=0.328
batch 22: loss=0.351
batch 23: loss=0.443
batch 24: loss=0.265
batch 25: loss=0.440
batch 26: loss=0.400
batch 27: loss=0.408
batch 28: loss=0.471
batch 29: loss=0.348
batch 30: loss=0.545
batch 31: loss=0.245
batch 32: loss=0.240
batch 33: loss=0.369
batch 34: loss=0.442
batch 35: loss=0.349
batch 36: loss=0.350
batch 37: loss=0.327
batch 38: loss=0.366
batch 39: loss=0.410
batch 40: loss=0.336
batch 41: loss=0.509
batch 42: loss=0.439
batch 43: loss=0.284
batch 44: loss=0.334
batch 45: loss=0.374
batch 46: loss=0.494
batch 47: loss=0.608
batch 48: loss=0.375
batch 49: loss=0.367
batch 50: loss=0.425
batch 51: loss=0.522
batch 52: loss=0.357
batch 53: loss=0.354
batch 54: loss=0.198
batch 55: loss=0.268
batch 56: loss=0.330
batch 57: loss=0.460
batch 58: loss=0.531
batch 59: loss=0.364
batch 60: loss=0.457
batch 61: loss=0.568
batch 62: loss=0.634
batch 63: loss=0.276
batch 64: loss=0.577
batch 65: loss=0.339
batch 66: loss=0.367

batch 67: loss=0.267
batch 68: loss=0.479
batch 69: loss=0.484
batch 70: loss=0.381
batch 71: loss=0.425
batch 72: loss=0.274
batch 73: loss=0.665
batch 74: loss=0.496
batch 75: loss=0.533
batch 76: loss=0.250
batch 77: loss=0.274
batch 78: loss=0.415
batch 79: loss=0.539
batch 80: loss=0.282
batch 81: loss=0.418
batch 82: loss=0.525

Testing on validation set
acc=0.896

Training epoch 9

batch 1: loss=0.505
batch 2: loss=0.426
batch 3: loss=0.214
batch 4: loss=0.450
batch 5: loss=0.338
batch 6: loss=0.344
batch 7: loss=0.435
batch 8: loss=0.287
batch 9: loss=0.327
batch 10: loss=0.399
batch 11: loss=0.354
batch 12: loss=0.225
batch 13: loss=0.254
batch 14: loss=0.113
batch 15: loss=0.362
batch 16: loss=0.476
batch 17: loss=0.314
batch 18: loss=0.384
batch 19: loss=0.577
batch 20: loss=0.397
batch 21: loss=0.336
batch 22: loss=0.418
batch 23: loss=0.272
batch 24: loss=0.291
batch 25: loss=0.387
batch 26: loss=0.269
batch 27: loss=0.334
batch 28: loss=0.351
batch 29: loss=0.381

batch 30: loss=0.267
batch 31: loss=0.286
batch 32: loss=0.329
batch 33: loss=0.381
batch 34: loss=0.271
batch 35: loss=0.336
batch 36: loss=0.298
batch 37: loss=0.465
batch 38: loss=0.287
batch 39: loss=0.316
batch 40: loss=0.557
batch 41: loss=0.461
batch 42: loss=0.544
batch 43: loss=0.546
batch 44: loss=0.366
batch 45: loss=0.493
batch 46: loss=0.371
batch 47: loss=0.495
batch 48: loss=0.231
batch 49: loss=0.198
batch 50: loss=0.253
batch 51: loss=0.221
batch 52: loss=0.351
batch 53: loss=0.326
batch 54: loss=0.310
batch 55: loss=0.532
batch 56: loss=0.155
batch 57: loss=0.421
batch 58: loss=0.301
batch 59: loss=0.254
batch 60: loss=0.403
batch 61: loss=0.703
batch 62: loss=0.344
batch 63: loss=0.445
batch 64: loss=0.497
batch 65: loss=0.276
batch 66: loss=0.297
batch 67: loss=0.231
batch 68: loss=0.304
batch 69: loss=0.330
batch 70: loss=0.369
batch 71: loss=0.254
batch 72: loss=0.296
batch 73: loss=0.161
batch 74: loss=0.413
batch 75: loss=0.503
batch 76: loss=0.392
batch 77: loss=0.455

```
batch 78: loss=0.425
batch 79: loss=0.409
batch 80: loss=0.529
batch 81: loss=0.517
batch 82: loss=0.318
Testing on validation set
acc=0.925
```

Training epoch 10

```
batch 1: loss=0.334
batch 2: loss=0.263
batch 3: loss=0.364
batch 4: loss=0.476
batch 5: loss=0.199
batch 6: loss=0.278
batch 7: loss=0.228
batch 8: loss=0.273
batch 9: loss=0.323
batch 10: loss=0.299
batch 11: loss=0.296
batch 12: loss=0.288
batch 13: loss=0.300
batch 14: loss=0.333
batch 15: loss=0.280
batch 16: loss=0.272
batch 17: loss=0.365
batch 18: loss=0.233
batch 19: loss=0.388
batch 20: loss=0.279
batch 21: loss=0.309
batch 22: loss=0.335
batch 23: loss=0.180
batch 24: loss=0.405
batch 25: loss=0.267
batch 26: loss=0.244
batch 27: loss=0.506
batch 28: loss=0.500
batch 29: loss=0.272
batch 30: loss=0.391
batch 31: loss=0.280
batch 32: loss=0.465
batch 33: loss=0.219
batch 34: loss=0.337
batch 35: loss=0.300
batch 36: loss=0.377
batch 37: loss=0.321
batch 38: loss=0.503
batch 39: loss=0.301
batch 40: loss=0.391
```

```
batch 41: loss=0.162
batch 42: loss=0.301
batch 43: loss=0.384
batch 44: loss=0.310
batch 45: loss=0.503
batch 46: loss=0.625
batch 47: loss=0.470
batch 48: loss=0.418
batch 49: loss=0.228
batch 50: loss=0.422
batch 51: loss=0.320
batch 52: loss=0.505
batch 53: loss=0.331
batch 54: loss=0.365
batch 55: loss=0.445
batch 56: loss=0.536
batch 57: loss=0.425
batch 58: loss=0.276
batch 59: loss=0.419
batch 60: loss=0.251
batch 61: loss=0.364
batch 62: loss=0.362
batch 63: loss=0.544
batch 64: loss=0.182
batch 65: loss=0.400
batch 66: loss=0.335
batch 67: loss=0.280
batch 68: loss=0.252
batch 69: loss=0.266
batch 70: loss=0.382
batch 71: loss=0.244
batch 72: loss=0.326
batch 73: loss=0.452
batch 74: loss=0.227
batch 75: loss=0.484
batch 76: loss=0.552
batch 77: loss=0.258
batch 78: loss=0.406
batch 79: loss=0.355
batch 80: loss=0.281
batch 81: loss=0.304
batch 82: loss=0.450
Testing on validation set
acc=0.920
Training epoch 11
batch 1: loss=0.292
batch 2: loss=0.225
batch 3: loss=0.353
```


batch 4: loss=0.375
batch 5: loss=0.481
batch 6: loss=0.275
batch 7: loss=0.341
batch 8: loss=0.198
batch 9: loss=0.481
batch 10: loss=0.249
batch 11: loss=0.507
batch 12: loss=0.222
batch 13: loss=0.242
batch 14: loss=0.342
batch 15: loss=0.456
batch 16: loss=0.632
batch 17: loss=0.419
batch 18: loss=0.228
batch 19: loss=0.192
batch 20: loss=0.379
batch 21: loss=0.596
batch 22: loss=0.217
batch 23: loss=0.145
batch 24: loss=0.293
batch 25: loss=0.287
batch 26: loss=0.340
batch 27: loss=0.223
batch 28: loss=0.461
batch 29: loss=0.411
batch 30: loss=0.388
batch 31: loss=0.402
batch 32: loss=0.333
batch 33: loss=0.378
batch 34: loss=0.316
batch 35: loss=0.359
batch 36: loss=0.182
batch 37: loss=0.219
batch 38: loss=0.232
batch 39: loss=0.224
batch 40: loss=0.550
batch 41: loss=0.438
batch 42: loss=0.415
batch 43: loss=0.374
batch 44: loss=0.445
batch 45: loss=0.331
batch 46: loss=0.198
batch 47: loss=0.352
batch 48: loss=0.365
batch 49: loss=0.222
batch 50: loss=0.283
batch 51: loss=0.313

```
batch 52: loss=0.323
batch 53: loss=0.422
batch 54: loss=0.428
batch 55: loss=0.604
batch 56: loss=0.165
batch 57: loss=0.447
batch 58: loss=0.294
batch 59: loss=0.300
batch 60: loss=0.410
batch 61: loss=0.370
batch 62: loss=0.326
batch 63: loss=0.650
batch 64: loss=0.491
batch 65: loss=0.423
batch 66: loss=0.334
batch 67: loss=0.212
batch 68: loss=0.471
batch 69: loss=0.249
batch 70: loss=0.254
batch 71: loss=0.374
batch 72: loss=0.379
batch 73: loss=0.355
batch 74: loss=0.239
batch 75: loss=0.511
batch 76: loss=0.686
batch 77: loss=0.241
batch 78: loss=0.432
batch 79: loss=0.331
batch 80: loss=0.393
batch 81: loss=0.269
batch 82: loss=0.445
Testing on validation set
acc=0.911
```

Training epoch 12

```
batch 1: loss=0.337
batch 2: loss=0.533
batch 3: loss=0.376
batch 4: loss=0.346
batch 5: loss=0.321
batch 6: loss=0.452
batch 7: loss=0.455
batch 8: loss=0.206
batch 9: loss=0.396
batch 10: loss=0.179
batch 11: loss=0.433
batch 12: loss=0.159
batch 13: loss=0.412
batch 14: loss=0.259
```

batch 15: loss=0.274
batch 16: loss=0.191
batch 17: loss=0.421
batch 18: loss=0.249
batch 19: loss=0.384
batch 20: loss=0.282
batch 21: loss=0.250
batch 22: loss=0.342
batch 23: loss=0.600
batch 24: loss=0.363
batch 25: loss=0.330
batch 26: loss=0.383
batch 27: loss=0.474
batch 28: loss=0.258
batch 29: loss=0.273
batch 30: loss=0.459
batch 31: loss=0.433
batch 32: loss=0.283
batch 33: loss=0.427
batch 34: loss=0.292
batch 35: loss=0.281
batch 36: loss=0.304
batch 37: loss=0.504
batch 38: loss=0.449
batch 39: loss=0.250
batch 40: loss=0.339
batch 41: loss=0.299
batch 42: loss=0.250
batch 43: loss=0.342
batch 44: loss=0.409
batch 45: loss=0.294
batch 46: loss=0.262
batch 47: loss=0.226
batch 48: loss=0.499
batch 49: loss=0.244
batch 50: loss=0.344
batch 51: loss=0.195
batch 52: loss=0.417
batch 53: loss=0.378
batch 54: loss=0.437
batch 55: loss=0.365
batch 56: loss=0.279
batch 57: loss=0.264
batch 58: loss=0.207
batch 59: loss=0.546
batch 60: loss=0.156
batch 61: loss=0.351
batch 62: loss=0.273

```
batch 63: loss=0.385
batch 64: loss=0.335
batch 65: loss=0.371
batch 66: loss=0.285
batch 67: loss=0.403
batch 68: loss=0.211
batch 69: loss=0.404
batch 70: loss=0.381
batch 71: loss=0.286
batch 72: loss=0.308
batch 73: loss=0.482
batch 74: loss=0.157
batch 75: loss=0.248
batch 76: loss=0.314
batch 77: loss=0.704
batch 78: loss=0.399
batch 79: loss=0.210
batch 80: loss=0.193
batch 81: loss=0.570
batch 82: loss=0.645
Testing on validation set
acc=0.916
```

Training epoch 13

```
batch 1: loss=0.122
batch 2: loss=0.162
batch 3: loss=0.365
batch 4: loss=0.336
batch 5: loss=0.352
batch 6: loss=0.227
batch 7: loss=0.369
batch 8: loss=0.442
batch 9: loss=0.337
batch 10: loss=0.253
batch 11: loss=0.314
batch 12: loss=0.237
batch 13: loss=0.395
batch 14: loss=0.410
batch 15: loss=0.361
batch 16: loss=0.319
batch 17: loss=0.132
batch 18: loss=0.332
batch 19: loss=0.272
batch 20: loss=0.307
batch 21: loss=0.331
batch 22: loss=0.274
batch 23: loss=0.206
batch 24: loss=0.328
batch 25: loss=0.319
```

batch 26: loss=0.319
batch 27: loss=0.280
batch 28: loss=0.275
batch 29: loss=0.414
batch 30: loss=0.214
batch 31: loss=0.328
batch 32: loss=0.365
batch 33: loss=0.200
batch 34: loss=0.173
batch 35: loss=0.342
batch 36: loss=0.410
batch 37: loss=0.504
batch 38: loss=0.291
batch 39: loss=0.236
batch 40: loss=0.293
batch 41: loss=0.325
batch 42: loss=0.322
batch 43: loss=0.302
batch 44: loss=0.391
batch 45: loss=0.223
batch 46: loss=0.237
batch 47: loss=0.253
batch 48: loss=0.211
batch 49: loss=0.410
batch 50: loss=0.155
batch 51: loss=0.311
batch 52: loss=0.270
batch 53: loss=0.310
batch 54: loss=0.403
batch 55: loss=0.390
batch 56: loss=0.346
batch 57: loss=0.181
batch 58: loss=0.331
batch 59: loss=0.180
batch 60: loss=0.384
batch 61: loss=0.374
batch 62: loss=0.432
batch 63: loss=0.227
batch 64: loss=0.251
batch 65: loss=0.463
batch 66: loss=0.280
batch 67: loss=0.241
batch 68: loss=0.406
batch 69: loss=0.240
batch 70: loss=0.414
batch 71: loss=0.431
batch 72: loss=0.263
batch 73: loss=0.423

batch 74: loss=0.442
batch 75: loss=0.351
batch 76: loss=0.258
batch 77: loss=0.366
batch 78: loss=0.284
batch 79: loss=0.198
batch 80: loss=0.100
batch 81: loss=0.277
batch 82: loss=1.000

Testing on validation set
acc=0.921

Training epoch 14

batch 1: loss=0.279
batch 2: loss=0.282
batch 3: loss=0.225
batch 4: loss=0.395
batch 5: loss=0.168
batch 6: loss=0.323
batch 7: loss=0.402
batch 8: loss=0.313
batch 9: loss=0.479
batch 10: loss=0.364
batch 11: loss=0.566
batch 12: loss=0.337
batch 13: loss=0.309
batch 14: loss=0.484
batch 15: loss=0.249
batch 16: loss=0.513
batch 17: loss=0.306
batch 18: loss=0.257
batch 19: loss=0.413
batch 20: loss=0.369
batch 21: loss=0.229
batch 22: loss=0.453
batch 23: loss=0.465
batch 24: loss=0.455
batch 25: loss=0.393
batch 26: loss=0.485
batch 27: loss=0.280
batch 28: loss=0.237
batch 29: loss=0.194
batch 30: loss=0.161
batch 31: loss=0.343
batch 32: loss=0.384
batch 33: loss=0.325
batch 34: loss=0.318
batch 35: loss=0.303
batch 36: loss=0.444

```
batch 37: loss=0.427
batch 38: loss=0.286
batch 39: loss=0.409
batch 40: loss=0.178
batch 41: loss=0.308
batch 42: loss=0.496
batch 43: loss=0.235
batch 44: loss=0.477
batch 45: loss=0.201
batch 46: loss=0.358
batch 47: loss=0.620
batch 48: loss=0.238
batch 49: loss=0.365
batch 50: loss=0.344
batch 51: loss=0.245
batch 52: loss=0.227
batch 53: loss=0.253
batch 54: loss=0.445
batch 55: loss=0.239
batch 56: loss=0.342
batch 57: loss=0.348
batch 58: loss=0.241
batch 59: loss=0.332
batch 60: loss=0.356
batch 61: loss=0.216
batch 62: loss=0.273
batch 63: loss=0.346
batch 64: loss=0.294
batch 65: loss=0.264
batch 66: loss=0.246
batch 67: loss=0.329
batch 68: loss=0.365
batch 69: loss=0.339
batch 70: loss=0.175
batch 71: loss=0.256
batch 72: loss=0.485
batch 73: loss=0.263
batch 74: loss=0.528
batch 75: loss=0.258
batch 76: loss=0.299
batch 77: loss=0.338
batch 78: loss=0.312
batch 79: loss=0.505
batch 80: loss=0.323
batch 81: loss=0.402
batch 82: loss=0.385
Testing on validation set
acc=0.914
```

Training epoch 15

batch	1:	loss=0.236
batch	2:	loss=0.269
batch	3:	loss=0.282
batch	4:	loss=0.589
batch	5:	loss=0.265
batch	6:	loss=0.516
batch	7:	loss=0.263
batch	8:	loss=0.109
batch	9:	loss=0.222
batch	10:	loss=0.216
batch	11:	loss=0.142
batch	12:	loss=0.342
batch	13:	loss=0.260
batch	14:	loss=0.409
batch	15:	loss=0.129
batch	16:	loss=0.188
batch	17:	loss=0.286
batch	18:	loss=0.296
batch	19:	loss=0.222
batch	20:	loss=0.270
batch	21:	loss=0.473
batch	22:	loss=0.198
batch	23:	loss=0.341
batch	24:	loss=0.446
batch	25:	loss=0.313
batch	26:	loss=0.230
batch	27:	loss=0.208
batch	28:	loss=0.370
batch	29:	loss=0.374
batch	30:	loss=0.138
batch	31:	loss=0.248
batch	32:	loss=0.330
batch	33:	loss=0.254
batch	34:	loss=0.262
batch	35:	loss=0.266
batch	36:	loss=0.445
batch	37:	loss=0.523
batch	38:	loss=0.161
batch	39:	loss=0.163
batch	40:	loss=0.383
batch	41:	loss=0.481
batch	42:	loss=0.292
batch	43:	loss=0.326
batch	44:	loss=0.330
batch	45:	loss=0.262
batch	46:	loss=0.614
batch	47:	loss=0.161


```
batch 48: loss=0.484
batch 49: loss=0.331
batch 50: loss=0.312
batch 51: loss=0.277
batch 52: loss=0.463
batch 53: loss=0.410
batch 54: loss=0.294
batch 55: loss=0.500
batch 56: loss=0.534
batch 57: loss=0.200
batch 58: loss=0.392
batch 59: loss=0.208
batch 60: loss=0.398
batch 61: loss=0.308
batch 62: loss=0.330
batch 63: loss=0.323
batch 64: loss=0.277
batch 65: loss=0.151
batch 66: loss=0.299
batch 67: loss=0.331
batch 68: loss=0.223
batch 69: loss=0.214
batch 70: loss=0.279
batch 71: loss=0.266
batch 72: loss=0.175
batch 73: loss=0.283
batch 74: loss=0.379
batch 75: loss=0.234
batch 76: loss=0.423
batch 77: loss=0.433
batch 78: loss=0.242
batch 79: loss=0.320
batch 80: loss=0.340
batch 81: loss=0.382
batch 82: loss=0.318
Testing on validation set
acc=0.914
```

Training epoch 16

```
batch 1: loss=0.224
batch 2: loss=0.544
batch 3: loss=0.245
batch 4: loss=0.190
batch 5: loss=0.283
batch 6: loss=0.154
batch 7: loss=0.480
batch 8: loss=0.250
batch 9: loss=0.355
batch 10: loss=0.379
```

batch 11: loss=0.589
batch 12: loss=0.210
batch 13: loss=0.211
batch 14: loss=0.132
batch 15: loss=0.255
batch 16: loss=0.389
batch 17: loss=0.269
batch 18: loss=0.312
batch 19: loss=0.088
batch 20: loss=0.202
batch 21: loss=0.274
batch 22: loss=0.203
batch 23: loss=0.181
batch 24: loss=0.213
batch 25: loss=0.328
batch 26: loss=0.244
batch 27: loss=0.190
batch 28: loss=0.170
batch 29: loss=0.184
batch 30: loss=0.337
batch 31: loss=0.460
batch 32: loss=0.296
batch 33: loss=0.318
batch 34: loss=0.255
batch 35: loss=0.160
batch 36: loss=0.373
batch 37: loss=0.137
batch 38: loss=0.413
batch 39: loss=0.281
batch 40: loss=0.365
batch 41: loss=0.303
batch 42: loss=0.207
batch 43: loss=0.213
batch 44: loss=0.384
batch 45: loss=0.187
batch 46: loss=0.464
batch 47: loss=0.355
batch 48: loss=0.190
batch 49: loss=0.312
batch 50: loss=0.278
batch 51: loss=0.180
batch 52: loss=0.430
batch 53: loss=0.574
batch 54: loss=0.255
batch 55: loss=0.254
batch 56: loss=0.292
batch 57: loss=0.342
batch 58: loss=0.190

```
batch 59: loss=0.202
batch 60: loss=0.474
batch 61: loss=0.459
batch 62: loss=0.115
batch 63: loss=0.141
batch 64: loss=0.375
batch 65: loss=0.157
batch 66: loss=0.654
batch 67: loss=0.243
batch 68: loss=0.360
batch 69: loss=0.236
batch 70: loss=0.350
batch 71: loss=0.310
batch 72: loss=0.202
batch 73: loss=0.252
batch 74: loss=0.350
batch 75: loss=0.159
batch 76: loss=0.255
batch 77: loss=0.241
batch 78: loss=0.239
batch 79: loss=0.299
batch 80: loss=0.264
batch 81: loss=0.358
batch 82: loss=0.239
Testing on validation set
acc=0.924
```

Training epoch 17

```
batch 1: loss=0.288
batch 2: loss=0.391
batch 3: loss=0.266
batch 4: loss=0.354
batch 5: loss=0.252
batch 6: loss=0.108
batch 7: loss=0.319
batch 8: loss=0.191
batch 9: loss=0.357
batch 10: loss=0.237
batch 11: loss=0.325
batch 12: loss=0.337
batch 13: loss=0.277
batch 14: loss=0.273
batch 15: loss=0.209
batch 16: loss=0.316
batch 17: loss=0.274
batch 18: loss=0.348
batch 19: loss=0.229
batch 20: loss=0.285
batch 21: loss=0.231
```

batch 22: loss=0.242
batch 23: loss=0.349
batch 24: loss=0.227
batch 25: loss=0.322
batch 26: loss=0.180
batch 27: loss=0.442
batch 28: loss=0.250
batch 29: loss=0.228
batch 30: loss=0.200
batch 31: loss=0.252
batch 32: loss=0.457
batch 33: loss=0.375
batch 34: loss=0.289
batch 35: loss=0.543
batch 36: loss=0.241
batch 37: loss=0.262
batch 38: loss=0.293
batch 39: loss=0.283
batch 40: loss=0.268
batch 41: loss=0.380
batch 42: loss=0.277
batch 43: loss=0.545
batch 44: loss=0.257
batch 45: loss=0.403
batch 46: loss=0.396
batch 47: loss=0.397
batch 48: loss=0.350
batch 49: loss=0.274
batch 50: loss=0.139
batch 51: loss=0.286
batch 52: loss=0.244
batch 53: loss=0.370
batch 54: loss=0.200
batch 55: loss=0.595
batch 56: loss=0.253
batch 57: loss=0.256
batch 58: loss=0.278
batch 59: loss=0.328
batch 60: loss=0.171
batch 61: loss=0.333
batch 62: loss=0.486
batch 63: loss=0.332
batch 64: loss=0.286
batch 65: loss=0.257
batch 66: loss=0.365
batch 67: loss=0.330
batch 68: loss=0.318
batch 69: loss=0.283

```
batch 70: loss=0.248
batch 71: loss=0.347
batch 72: loss=0.235
batch 73: loss=0.406
batch 74: loss=0.382
batch 75: loss=0.238
batch 76: loss=0.320
batch 77: loss=0.123
batch 78: loss=0.242
batch 79: loss=0.305
batch 80: loss=0.234
batch 81: loss=0.352
batch 82: loss=0.322
Testing on validation set
acc=0.907
```

Training epoch 18

```
batch 1: loss=0.203
batch 2: loss=0.403
batch 3: loss=0.352
batch 4: loss=0.277
batch 5: loss=0.292
batch 6: loss=0.259
batch 7: loss=0.293
batch 8: loss=0.290
batch 9: loss=0.119
batch 10: loss=0.128
batch 11: loss=0.323
batch 12: loss=0.203
batch 13: loss=0.111
batch 14: loss=0.331
batch 15: loss=0.429
batch 16: loss=0.131
batch 17: loss=0.187
batch 18: loss=0.153
batch 19: loss=0.303
batch 20: loss=0.465
batch 21: loss=0.317
batch 22: loss=0.423
batch 23: loss=0.312
batch 24: loss=0.165
batch 25: loss=0.117
batch 26: loss=0.433
batch 27: loss=0.298
batch 28: loss=0.627
batch 29: loss=0.196
batch 30: loss=0.106
batch 31: loss=0.225
batch 32: loss=0.504
```

batch 33: loss=0.430
batch 34: loss=0.256
batch 35: loss=0.302
batch 36: loss=0.293
batch 37: loss=0.325
batch 38: loss=0.329
batch 39: loss=0.277
batch 40: loss=0.300
batch 41: loss=0.411
batch 42: loss=0.404
batch 43: loss=0.175
batch 44: loss=0.528
batch 45: loss=0.242
batch 46: loss=0.454
batch 47: loss=0.219
batch 48: loss=0.136
batch 49: loss=0.312
batch 50: loss=0.329
batch 51: loss=0.224
batch 52: loss=0.210
batch 53: loss=0.275
batch 54: loss=0.340
batch 55: loss=0.135
batch 56: loss=0.188
batch 57: loss=0.145
batch 58: loss=0.457
batch 59: loss=0.458
batch 60: loss=0.138
batch 61: loss=0.317
batch 62: loss=0.229
batch 63: loss=0.372
batch 64: loss=0.363
batch 65: loss=0.342
batch 66: loss=0.206
batch 67: loss=0.209
batch 68: loss=0.193
batch 69: loss=0.228
batch 70: loss=0.439
batch 71: loss=0.221
batch 72: loss=0.169
batch 73: loss=0.345
batch 74: loss=0.260
batch 75: loss=0.389
batch 76: loss=0.165
batch 77: loss=0.284
batch 78: loss=0.305
batch 79: loss=0.211
batch 80: loss=0.188

batch 81: loss=0.370
batch 82: loss=0.517
Testing on validation set
acc=0.918

Training epoch 19

batch 1: loss=0.121
batch 2: loss=0.356
batch 3: loss=0.201
batch 4: loss=0.245
batch 5: loss=0.463
batch 6: loss=0.348
batch 7: loss=0.178
batch 8: loss=0.251
batch 9: loss=0.176
batch 10: loss=0.317
batch 11: loss=0.407
batch 12: loss=0.586
batch 13: loss=0.142
batch 14: loss=0.474
batch 15: loss=0.278
batch 16: loss=0.139
batch 17: loss=0.485
batch 18: loss=0.321
batch 19: loss=0.599
batch 20: loss=0.294
batch 21: loss=0.304
batch 22: loss=0.082
batch 23: loss=0.189
batch 24: loss=0.244
batch 25: loss=0.526
batch 26: loss=0.282
batch 27: loss=0.282
batch 28: loss=0.274
batch 29: loss=0.206
batch 30: loss=0.302
batch 31: loss=0.197
batch 32: loss=0.183
batch 33: loss=0.264
batch 34: loss=0.441
batch 35: loss=0.291
batch 36: loss=0.229
batch 37: loss=0.522
batch 38: loss=0.333
batch 39: loss=0.195
batch 40: loss=0.396
batch 41: loss=0.400
batch 42: loss=0.227
batch 43: loss=0.233

batch 44: loss=0.146
batch 45: loss=0.334
batch 46: loss=0.402
batch 47: loss=0.233
batch 48: loss=0.468
batch 49: loss=0.265
batch 50: loss=0.263
batch 51: loss=0.387
batch 52: loss=0.167
batch 53: loss=0.212
batch 54: loss=0.473
batch 55: loss=0.389
batch 56: loss=0.268
batch 57: loss=0.251
batch 58: loss=0.393
batch 59: loss=0.247
batch 60: loss=0.443
batch 61: loss=0.262
batch 62: loss=0.246
batch 63: loss=0.355
batch 64: loss=0.191
batch 65: loss=0.366
batch 66: loss=0.372
batch 67: loss=0.342
batch 68: loss=0.252
batch 69: loss=0.168
batch 70: loss=0.185
batch 71: loss=0.207
batch 72: loss=0.269
batch 73: loss=0.269
batch 74: loss=0.133
batch 75: loss=0.346
batch 76: loss=0.591
batch 77: loss=0.202
batch 78: loss=0.261
batch 79: loss=0.253
batch 80: loss=0.356
batch 81: loss=0.293
batch 82: loss=0.119

Testing on validation set
acc=0.911

Training epoch 20

batch 1: loss=0.103
batch 2: loss=0.424
batch 3: loss=0.349
batch 4: loss=0.164
batch 5: loss=0.272
batch 6: loss=0.170

batch 7: loss=0.335
batch 8: loss=0.201
batch 9: loss=0.136
batch 10: loss=0.094
batch 11: loss=0.299
batch 12: loss=0.169
batch 13: loss=0.384
batch 14: loss=0.359
batch 15: loss=0.544
batch 16: loss=0.295
batch 17: loss=0.306
batch 18: loss=0.394
batch 19: loss=0.403
batch 20: loss=0.267
batch 21: loss=0.131
batch 22: loss=0.195
batch 23: loss=0.546
batch 24: loss=0.244
batch 25: loss=0.379
batch 26: loss=0.380
batch 27: loss=0.273
batch 28: loss=0.363
batch 29: loss=0.154
batch 30: loss=0.526
batch 31: loss=0.390
batch 32: loss=0.171
batch 33: loss=0.222
batch 34: loss=0.290
batch 35: loss=0.399
batch 36: loss=0.179
batch 37: loss=0.205
batch 38: loss=0.160
batch 39: loss=0.334
batch 40: loss=0.273
batch 41: loss=0.204
batch 42: loss=0.153
batch 43: loss=0.183
batch 44: loss=0.324
batch 45: loss=0.594
batch 46: loss=0.293
batch 47: loss=0.135
batch 48: loss=0.155
batch 49: loss=0.179
batch 50: loss=0.421
batch 51: loss=0.351
batch 52: loss=0.220
batch 53: loss=0.145
batch 54: loss=0.331

```
batch 55: loss=0.323
batch 56: loss=0.303
batch 57: loss=0.310
batch 58: loss=0.255
batch 59: loss=0.106
batch 60: loss=0.295
batch 61: loss=0.202
batch 62: loss=0.246
batch 63: loss=0.313
batch 64: loss=0.333
batch 65: loss=0.218
batch 66: loss=0.345
batch 67: loss=0.151
batch 68: loss=0.265
batch 69: loss=0.311
batch 70: loss=0.302
batch 71: loss=0.223
batch 72: loss=0.476
batch 73: loss=0.186
batch 74: loss=0.182
batch 75: loss=0.366
batch 76: loss=0.238
batch 77: loss=0.229
batch 78: loss=0.226
batch 79: loss=0.290
batch 80: loss=0.227
batch 81: loss=0.254
batch 82: loss=0.078
Testing on validation set
acc=0.906
```

Training epoch 21

```
batch 1: loss=0.166
batch 2: loss=0.226
batch 3: loss=0.133
batch 4: loss=0.260
batch 5: loss=0.407
batch 6: loss=0.199
batch 7: loss=0.229
batch 8: loss=0.219
batch 9: loss=0.387
batch 10: loss=0.444
batch 11: loss=0.232
batch 12: loss=0.276
batch 13: loss=0.174
batch 14: loss=0.174
batch 15: loss=0.134
batch 16: loss=0.267
batch 17: loss=0.118
```

batch 18: loss=0.121
batch 19: loss=0.280
batch 20: loss=0.184
batch 21: loss=0.143
batch 22: loss=0.502
batch 23: loss=0.187
batch 24: loss=0.205
batch 25: loss=0.219
batch 26: loss=0.335
batch 27: loss=0.117
batch 28: loss=0.357
batch 29: loss=0.304
batch 30: loss=0.421
batch 31: loss=0.244
batch 32: loss=0.150
batch 33: loss=0.454
batch 34: loss=0.258
batch 35: loss=0.266
batch 36: loss=0.316
batch 37: loss=0.293
batch 38: loss=0.181
batch 39: loss=0.274
batch 40: loss=0.329
batch 41: loss=0.076
batch 42: loss=0.189
batch 43: loss=0.440
batch 44: loss=0.328
batch 45: loss=0.423
batch 46: loss=0.208
batch 47: loss=0.153
batch 48: loss=0.405
batch 49: loss=0.197
batch 50: loss=0.261
batch 51: loss=0.236
batch 52: loss=0.226
batch 53: loss=0.129
batch 54: loss=0.167
batch 55: loss=0.230
batch 56: loss=0.129
batch 57: loss=0.425
batch 58: loss=0.419
batch 59: loss=0.347
batch 60: loss=0.123
batch 61: loss=0.257
batch 62: loss=0.218
batch 63: loss=0.211
batch 64: loss=0.339
batch 65: loss=0.466

```
batch 66: loss=0.424
batch 67: loss=0.288
batch 68: loss=0.343
batch 69: loss=0.377
batch 70: loss=0.202
batch 71: loss=0.202
batch 72: loss=0.253
batch 73: loss=0.328
batch 74: loss=0.221
batch 75: loss=0.213
batch 76: loss=0.457
batch 77: loss=0.237
batch 78: loss=0.396
batch 79: loss=0.206
batch 80: loss=0.356
batch 81: loss=0.268
batch 82: loss=0.146
Testing on validation set
acc=0.909
```

Training epoch 22

```
batch 1: loss=0.101
batch 2: loss=0.130
batch 3: loss=0.162
batch 4: loss=0.316
batch 5: loss=0.063
batch 6: loss=0.300
batch 7: loss=0.161
batch 8: loss=0.108
batch 9: loss=0.142
batch 10: loss=0.184
batch 11: loss=0.297
batch 12: loss=0.526
batch 13: loss=0.273
batch 14: loss=0.123
batch 15: loss=0.208
batch 16: loss=0.294
batch 17: loss=0.288
batch 18: loss=0.218
batch 19: loss=0.259
batch 20: loss=0.288
batch 21: loss=0.185
batch 22: loss=0.271
batch 23: loss=0.239
batch 24: loss=0.129
batch 25: loss=0.230
batch 26: loss=0.458
batch 27: loss=0.142
batch 28: loss=0.369
```

batch 29: loss=0.188
batch 30: loss=0.202
batch 31: loss=0.192
batch 32: loss=0.098
batch 33: loss=0.246
batch 34: loss=0.211
batch 35: loss=0.201
batch 36: loss=0.241
batch 37: loss=0.337
batch 38: loss=0.318
batch 39: loss=0.134
batch 40: loss=0.375
batch 41: loss=0.169
batch 42: loss=0.210
batch 43: loss=0.154
batch 44: loss=0.250
batch 45: loss=0.327
batch 46: loss=0.221
batch 47: loss=0.205
batch 48: loss=0.151
batch 49: loss=0.207
batch 50: loss=0.252
batch 51: loss=0.290
batch 52: loss=0.124
batch 53: loss=0.147
batch 54: loss=0.323
batch 55: loss=0.263
batch 56: loss=0.222
batch 57: loss=0.269
batch 58: loss=0.472
batch 59: loss=0.403
batch 60: loss=0.253
batch 61: loss=0.651
batch 62: loss=0.390
batch 63: loss=0.352
batch 64: loss=0.217
batch 65: loss=0.221
batch 66: loss=0.244
batch 67: loss=0.242
batch 68: loss=0.260
batch 69: loss=0.203
batch 70: loss=0.283
batch 71: loss=0.223
batch 72: loss=0.256
batch 73: loss=0.188
batch 74: loss=0.186
batch 75: loss=0.193
batch 76: loss=0.312

```
batch 77: loss=0.397
batch 78: loss=0.221
batch 79: loss=0.182
batch 80: loss=0.475
batch 81: loss=0.521
batch 82: loss=0.878
Testing on validation set
acc=0.927
```

Training epoch 23

```
batch 1: loss=0.290
batch 2: loss=0.109
batch 3: loss=0.174
batch 4: loss=0.458
batch 5: loss=0.146
batch 6: loss=0.033
batch 7: loss=0.151
batch 8: loss=0.225
batch 9: loss=0.380
batch 10: loss=0.189
batch 11: loss=0.412
batch 12: loss=0.432
batch 13: loss=0.163
batch 14: loss=0.188
batch 15: loss=0.147
batch 16: loss=0.261
batch 17: loss=0.280
batch 18: loss=0.193
batch 19: loss=0.311
batch 20: loss=0.225
batch 21: loss=0.186
batch 22: loss=0.526
batch 23: loss=0.213
batch 24: loss=0.167
batch 25: loss=0.207
batch 26: loss=0.201
batch 27: loss=0.259
batch 28: loss=0.191
batch 29: loss=0.340
batch 30: loss=0.177
batch 31: loss=0.239
batch 32: loss=0.556
batch 33: loss=0.162
batch 34: loss=0.172
batch 35: loss=0.228
batch 36: loss=0.326
batch 37: loss=0.235
batch 38: loss=0.249
batch 39: loss=0.309
```

```
batch 40: loss=0.294
batch 41: loss=0.244
batch 42: loss=0.243
batch 43: loss=0.274
batch 44: loss=0.218
batch 45: loss=0.269
batch 46: loss=0.278
batch 47: loss=0.394
batch 48: loss=0.201
batch 49: loss=0.178
batch 50: loss=0.177
batch 51: loss=0.154
batch 52: loss=0.244
batch 53: loss=0.144
batch 54: loss=0.264
batch 55: loss=0.171
batch 56: loss=0.265
batch 57: loss=0.255
batch 58: loss=0.113
batch 59: loss=0.232
batch 60: loss=0.235
batch 61: loss=0.222
batch 62: loss=0.193
batch 63: loss=0.224
batch 64: loss=0.300
batch 65: loss=0.260
batch 66: loss=0.320
batch 67: loss=0.193
batch 68: loss=0.235
batch 69: loss=0.223
batch 70: loss=0.394
batch 71: loss=0.173
batch 72: loss=0.211
batch 73: loss=0.144
batch 74: loss=0.341
batch 75: loss=0.102
batch 76: loss=0.239
batch 77: loss=0.412
batch 78: loss=0.197
batch 79: loss=0.060
batch 80: loss=0.195
batch 81: loss=0.129
batch 82: loss=0.349
Testing on validation set
acc=0.929
Training epoch 24
batch 1: loss=0.452
batch 2: loss=0.229
```

batch 3: loss=0.176
batch 4: loss=0.372
batch 5: loss=0.250
batch 6: loss=0.160
batch 7: loss=0.346
batch 8: loss=0.261
batch 9: loss=0.103
batch 10: loss=0.325
batch 11: loss=0.212
batch 12: loss=0.254
batch 13: loss=0.316
batch 14: loss=0.400
batch 15: loss=0.355
batch 16: loss=0.245
batch 17: loss=0.239
batch 18: loss=0.249
batch 19: loss=0.263
batch 20: loss=0.240
batch 21: loss=0.089
batch 22: loss=0.222
batch 23: loss=0.294
batch 24: loss=0.265
batch 25: loss=0.330
batch 26: loss=0.544
batch 27: loss=0.182
batch 28: loss=0.148
batch 29: loss=0.089
batch 30: loss=0.349
batch 31: loss=0.383
batch 32: loss=0.103
batch 33: loss=0.301
batch 34: loss=0.186
batch 35: loss=0.337
batch 36: loss=0.337
batch 37: loss=0.189
batch 38: loss=0.329
batch 39: loss=0.125
batch 40: loss=0.117
batch 41: loss=0.170
batch 42: loss=0.212
batch 43: loss=0.317
batch 44: loss=0.469
batch 45: loss=0.098
batch 46: loss=0.338
batch 47: loss=0.257
batch 48: loss=0.502
batch 49: loss=0.384
batch 50: loss=0.172


```
batch 51: loss=0.182
batch 52: loss=0.275
batch 53: loss=0.236
batch 54: loss=0.240
batch 55: loss=0.278
batch 56: loss=0.222
batch 57: loss=0.456
batch 58: loss=0.251
batch 59: loss=0.275
batch 60: loss=0.333
batch 61: loss=0.211
batch 62: loss=0.099
batch 63: loss=0.427
batch 64: loss=0.274
batch 65: loss=0.250
batch 66: loss=0.174
batch 67: loss=0.524
batch 68: loss=0.143
batch 69: loss=0.289
batch 70: loss=0.459
batch 71: loss=0.177
batch 72: loss=0.292
batch 73: loss=0.239
batch 74: loss=0.154
batch 75: loss=0.189
batch 76: loss=0.124
batch 77: loss=0.286
batch 78: loss=0.214
batch 79: loss=0.540
batch 80: loss=0.183
batch 81: loss=0.355
batch 82: loss=0.258
Testing on validation set
acc=0.905
```

Training epoch 25

```
batch 1: loss=0.125
batch 2: loss=0.116
batch 3: loss=0.177
batch 4: loss=0.289
batch 5: loss=0.157
batch 6: loss=0.215
batch 7: loss=0.173
batch 8: loss=0.190
batch 9: loss=0.346
batch 10: loss=0.211
batch 11: loss=0.193
batch 12: loss=0.398
batch 13: loss=0.358
```

batch 14: loss=0.323
batch 15: loss=0.263
batch 16: loss=0.165
batch 17: loss=0.185
batch 18: loss=0.229
batch 19: loss=0.267
batch 20: loss=0.181
batch 21: loss=0.259
batch 22: loss=0.159
batch 23: loss=0.195
batch 24: loss=0.288
batch 25: loss=0.303
batch 26: loss=0.573
batch 27: loss=0.282
batch 28: loss=0.306
batch 29: loss=0.112
batch 30: loss=0.319
batch 31: loss=0.463
batch 32: loss=0.426
batch 33: loss=0.162
batch 34: loss=0.213
batch 35: loss=0.369
batch 36: loss=0.265
batch 37: loss=0.254
batch 38: loss=0.316
batch 39: loss=0.241
batch 40: loss=0.176
batch 41: loss=0.417
batch 42: loss=0.274
batch 43: loss=0.201
batch 44: loss=0.363
batch 45: loss=0.214
batch 46: loss=0.219
batch 47: loss=0.217
batch 48: loss=0.293
batch 49: loss=0.174
batch 50: loss=0.211
batch 51: loss=0.188
batch 52: loss=0.175
batch 53: loss=0.367
batch 54: loss=0.343
batch 55: loss=0.338
batch 56: loss=0.267
batch 57: loss=0.242
batch 58: loss=0.187
batch 59: loss=0.307
batch 60: loss=0.523
batch 61: loss=0.158

```
batch 62: loss=0.231
batch 63: loss=0.405
batch 64: loss=0.258
batch 65: loss=0.393
batch 66: loss=0.218
batch 67: loss=0.167
batch 68: loss=0.143
batch 69: loss=0.256
batch 70: loss=0.094
batch 71: loss=0.317
batch 72: loss=0.149
batch 73: loss=0.185
batch 74: loss=0.314
batch 75: loss=0.348
batch 76: loss=0.460
batch 77: loss=0.469
batch 78: loss=0.469
batch 79: loss=0.192
batch 80: loss=0.298
batch 81: loss=0.348
batch 82: loss=0.400
Testing on validation set
acc=0.930
```

Training epoch 26

```
batch 1: loss=0.131
batch 2: loss=0.220
batch 3: loss=0.350
batch 4: loss=0.086
batch 5: loss=0.209
batch 6: loss=0.305
batch 7: loss=0.366
batch 8: loss=0.387
batch 9: loss=0.465
batch 10: loss=0.153
batch 11: loss=0.247
batch 12: loss=0.271
batch 13: loss=0.326
batch 14: loss=0.179
batch 15: loss=0.169
batch 16: loss=0.373
batch 17: loss=0.314
batch 18: loss=0.318
batch 19: loss=0.333
batch 20: loss=0.149
batch 21: loss=0.348
batch 22: loss=0.190
batch 23: loss=0.297
batch 24: loss=0.180
```

batch 25: loss=0.167
batch 26: loss=0.273
batch 27: loss=0.217
batch 28: loss=0.180
batch 29: loss=0.431
batch 30: loss=0.157
batch 31: loss=0.235
batch 32: loss=0.337
batch 33: loss=0.241
batch 34: loss=0.135
batch 35: loss=0.189
batch 36: loss=0.205
batch 37: loss=0.080
batch 38: loss=0.210
batch 39: loss=0.229
batch 40: loss=0.219
batch 41: loss=0.165
batch 42: loss=0.160
batch 43: loss=0.236
batch 44: loss=0.213
batch 45: loss=0.335
batch 46: loss=0.222
batch 47: loss=0.373
batch 48: loss=0.284
batch 49: loss=0.115
batch 50: loss=0.419
batch 51: loss=0.220
batch 52: loss=0.164
batch 53: loss=0.241
batch 54: loss=0.300
batch 55: loss=0.239
batch 56: loss=0.172
batch 57: loss=0.075
batch 58: loss=0.183
batch 59: loss=0.134
batch 60: loss=0.127
batch 61: loss=0.261
batch 62: loss=0.189
batch 63: loss=0.144
batch 64: loss=0.098
batch 65: loss=0.311
batch 66: loss=0.214
batch 67: loss=0.153
batch 68: loss=0.245
batch 69: loss=0.109
batch 70: loss=0.183
batch 71: loss=0.050
batch 72: loss=0.196

batch 73: loss=0.151
batch 74: loss=0.225
batch 75: loss=0.375
batch 76: loss=0.186
batch 77: loss=0.291
batch 78: loss=0.227
batch 79: loss=0.227
batch 80: loss=0.272
batch 81: loss=0.417
batch 82: loss=0.058

Testing on validation set
acc=0.918

Training epoch 27

batch 1: loss=0.252
batch 2: loss=0.217
batch 3: loss=0.203
batch 4: loss=0.241
batch 5: loss=0.226
batch 6: loss=0.161
batch 7: loss=0.183
batch 8: loss=0.291
batch 9: loss=0.200
batch 10: loss=0.162
batch 11: loss=0.229
batch 12: loss=0.209
batch 13: loss=0.148
batch 14: loss=0.194
batch 15: loss=0.186
batch 16: loss=0.144
batch 17: loss=0.087
batch 18: loss=0.156
batch 19: loss=0.199
batch 20: loss=0.208
batch 21: loss=0.373
batch 22: loss=0.158
batch 23: loss=0.176
batch 24: loss=0.233
batch 25: loss=0.166
batch 26: loss=0.312
batch 27: loss=0.150
batch 28: loss=0.081
batch 29: loss=0.193
batch 30: loss=0.270
batch 31: loss=0.245
batch 32: loss=0.140
batch 33: loss=0.155
batch 34: loss=0.078
batch 35: loss=0.178

batch 36: loss=0.237
batch 37: loss=0.343
batch 38: loss=0.148
batch 39: loss=0.346
batch 40: loss=0.175
batch 41: loss=0.135
batch 42: loss=0.108
batch 43: loss=0.195
batch 44: loss=0.283
batch 45: loss=0.126
batch 46: loss=0.272
batch 47: loss=0.491
batch 48: loss=0.265
batch 49: loss=0.322
batch 50: loss=0.193
batch 51: loss=0.230
batch 52: loss=0.119
batch 53: loss=0.346
batch 54: loss=0.267
batch 55: loss=0.345
batch 56: loss=0.216
batch 57: loss=0.462
batch 58: loss=0.160
batch 59: loss=0.178
batch 60: loss=0.089
batch 61: loss=0.325
batch 62: loss=0.264
batch 63: loss=0.330
batch 64: loss=0.225
batch 65: loss=0.282
batch 66: loss=0.125
batch 67: loss=0.253
batch 68: loss=0.102
batch 69: loss=0.171
batch 70: loss=0.133
batch 71: loss=0.287
batch 72: loss=0.138
batch 73: loss=0.139
batch 74: loss=0.141
batch 75: loss=0.224
batch 76: loss=0.079
batch 77: loss=0.219
batch 78: loss=0.238
batch 79: loss=0.269
batch 80: loss=0.194
batch 81: loss=0.207
batch 82: loss=0.262
Testing on validation set

acc=0.922

Training epoch 28

batch	1:	loss=0.474
batch	2:	loss=0.176
batch	3:	loss=0.116
batch	4:	loss=0.407
batch	5:	loss=0.221
batch	6:	loss=0.283
batch	7:	loss=0.158
batch	8:	loss=0.193
batch	9:	loss=0.340
batch	10:	loss=0.160
batch	11:	loss=0.178
batch	12:	loss=0.431
batch	13:	loss=0.284
batch	14:	loss=0.283
batch	15:	loss=0.367
batch	16:	loss=0.285
batch	17:	loss=0.086
batch	18:	loss=0.304
batch	19:	loss=0.097
batch	20:	loss=0.290
batch	21:	loss=0.163
batch	22:	loss=0.279
batch	23:	loss=0.114
batch	24:	loss=0.468
batch	25:	loss=0.239
batch	26:	loss=0.198
batch	27:	loss=0.280
batch	28:	loss=0.344
batch	29:	loss=0.336
batch	30:	loss=0.279
batch	31:	loss=0.277
batch	32:	loss=0.121
batch	33:	loss=0.293
batch	34:	loss=0.382
batch	35:	loss=0.067
batch	36:	loss=0.224
batch	37:	loss=0.184
batch	38:	loss=0.358
batch	39:	loss=0.203
batch	40:	loss=0.088
batch	41:	loss=0.162
batch	42:	loss=0.444
batch	43:	loss=0.309
batch	44:	loss=0.211
batch	45:	loss=0.220
batch	46:	loss=0.154

batch 47: loss=0.188
batch 48: loss=0.334
batch 49: loss=0.368
batch 50: loss=0.288
batch 51: loss=0.230
batch 52: loss=0.331
batch 53: loss=0.269
batch 54: loss=0.230
batch 55: loss=0.239
batch 56: loss=0.291
batch 57: loss=0.135
batch 58: loss=0.266
batch 59: loss=0.430
batch 60: loss=0.299
batch 61: loss=0.167
batch 62: loss=0.289
batch 63: loss=0.421
batch 64: loss=0.252
batch 65: loss=0.386
batch 66: loss=0.197
batch 67: loss=0.095
batch 68: loss=0.262
batch 69: loss=0.191
batch 70: loss=0.252
batch 71: loss=0.151
batch 72: loss=0.164
batch 73: loss=0.277
batch 74: loss=0.215
batch 75: loss=0.302
batch 76: loss=0.208
batch 77: loss=0.188
batch 78: loss=0.131
batch 79: loss=0.383
batch 80: loss=0.223
batch 81: loss=0.290
batch 82: loss=0.065

Testing on validation set
acc=0.913

Training epoch 29

batch 1: loss=0.188
batch 2: loss=0.213
batch 3: loss=0.131
batch 4: loss=0.355
batch 5: loss=0.249
batch 6: loss=0.175
batch 7: loss=0.247
batch 8: loss=0.207
batch 9: loss=0.144

batch 10: loss=0.089
batch 11: loss=0.245
batch 12: loss=0.186
batch 13: loss=0.130
batch 14: loss=0.472
batch 15: loss=0.241
batch 16: loss=0.377
batch 17: loss=0.127
batch 18: loss=0.191
batch 19: loss=0.299
batch 20: loss=0.276
batch 21: loss=0.226
batch 22: loss=0.223
batch 23: loss=0.330
batch 24: loss=0.120
batch 25: loss=0.156
batch 26: loss=0.241
batch 27: loss=0.267
batch 28: loss=0.110
batch 29: loss=0.283
batch 30: loss=0.377
batch 31: loss=0.290
batch 32: loss=0.348
batch 33: loss=0.373
batch 34: loss=0.202
batch 35: loss=0.163
batch 36: loss=0.294
batch 37: loss=0.396
batch 38: loss=0.348
batch 39: loss=0.238
batch 40: loss=0.428
batch 41: loss=0.220
batch 42: loss=0.221
batch 43: loss=0.295
batch 44: loss=0.210
batch 45: loss=0.133
batch 46: loss=0.098
batch 47: loss=0.120
batch 48: loss=0.179
batch 49: loss=0.286
batch 50: loss=0.096
batch 51: loss=0.250
batch 52: loss=0.140
batch 53: loss=0.169
batch 54: loss=0.096
batch 55: loss=0.210
batch 56: loss=0.207
batch 57: loss=0.197

```
batch 58: loss=0.163
batch 59: loss=0.191
batch 60: loss=0.219
batch 61: loss=0.403
batch 62: loss=0.249
batch 63: loss=0.298
batch 64: loss=0.177
batch 65: loss=0.126
batch 66: loss=0.224
batch 67: loss=0.328
batch 68: loss=0.192
batch 69: loss=0.267
batch 70: loss=0.064
batch 71: loss=0.128
batch 72: loss=0.240
batch 73: loss=0.349
batch 74: loss=0.154
batch 75: loss=0.281
batch 76: loss=0.126
batch 77: loss=0.090
batch 78: loss=0.167
batch 79: loss=0.154
batch 80: loss=0.289
batch 81: loss=0.312
batch 82: loss=0.486
Testing on validation set
acc=0.916
```

Training epoch 30

```
batch 1: loss=0.069
batch 2: loss=0.127
batch 3: loss=0.299
batch 4: loss=0.264
batch 5: loss=0.239
batch 6: loss=0.304
batch 7: loss=0.160
batch 8: loss=0.233
batch 9: loss=0.184
batch 10: loss=0.252
batch 11: loss=0.371
batch 12: loss=0.223
batch 13: loss=0.188
batch 14: loss=0.330
batch 15: loss=0.355
batch 16: loss=0.140
batch 17: loss=0.325
batch 18: loss=0.228
batch 19: loss=0.346
batch 20: loss=0.403
```

batch 21: loss=0.224
batch 22: loss=0.140
batch 23: loss=0.135
batch 24: loss=0.311
batch 25: loss=0.093
batch 26: loss=0.418
batch 27: loss=0.368
batch 28: loss=0.128
batch 29: loss=0.318
batch 30: loss=0.150
batch 31: loss=0.208
batch 32: loss=0.157
batch 33: loss=0.103
batch 34: loss=0.250
batch 35: loss=0.310
batch 36: loss=0.287
batch 37: loss=0.215
batch 38: loss=0.200
batch 39: loss=0.216
batch 40: loss=0.132
batch 41: loss=0.189
batch 42: loss=0.233
batch 43: loss=0.209
batch 44: loss=0.197
batch 45: loss=0.397
batch 46: loss=0.218
batch 47: loss=0.289
batch 48: loss=0.107
batch 49: loss=0.216
batch 50: loss=0.374
batch 51: loss=0.392
batch 52: loss=0.280
batch 53: loss=0.114
batch 54: loss=0.148
batch 55: loss=0.104
batch 56: loss=0.101
batch 57: loss=0.221
batch 58: loss=0.280
batch 59: loss=0.170
batch 60: loss=0.103
batch 61: loss=0.288
batch 62: loss=0.056
batch 63: loss=0.245
batch 64: loss=0.164
batch 65: loss=0.273
batch 66: loss=0.389
batch 67: loss=0.321
batch 68: loss=0.222

batch 69: loss=0.239
batch 70: loss=0.369
batch 71: loss=0.308
batch 72: loss=0.136
batch 73: loss=0.280
batch 74: loss=0.311
batch 75: loss=0.495
batch 76: loss=0.170
batch 77: loss=0.140
batch 78: loss=0.315
batch 79: loss=0.141
batch 80: loss=0.127
batch 81: loss=0.256
batch 82: loss=0.183
Testing on validation set
acc=0.931

Training epoch 31

batch 1: loss=0.208
batch 2: loss=0.187
batch 3: loss=0.332
batch 4: loss=0.177
batch 5: loss=0.149
batch 6: loss=0.183
batch 7: loss=0.199
batch 8: loss=0.151
batch 9: loss=0.159
batch 10: loss=0.264
batch 11: loss=0.310
batch 12: loss=0.304
batch 13: loss=0.132
batch 14: loss=0.325
batch 15: loss=0.173
batch 16: loss=0.149
batch 17: loss=0.277
batch 18: loss=0.110
batch 19: loss=0.185
batch 20: loss=0.258
batch 21: loss=0.241
batch 22: loss=0.084
batch 23: loss=0.197
batch 24: loss=0.183
batch 25: loss=0.317
batch 26: loss=0.166
batch 27: loss=0.207
batch 28: loss=0.184
batch 29: loss=0.212
batch 30: loss=0.115
batch 31: loss=0.067

batch 32: loss=0.121
batch 33: loss=0.241
batch 34: loss=0.116
batch 35: loss=0.196
batch 36: loss=0.184
batch 37: loss=0.114
batch 38: loss=0.153
batch 39: loss=0.077
batch 40: loss=0.207
batch 41: loss=0.167
batch 42: loss=0.307
batch 43: loss=0.140
batch 44: loss=0.285
batch 45: loss=0.183
batch 46: loss=0.351
batch 47: loss=0.174
batch 48: loss=0.380
batch 49: loss=0.207
batch 50: loss=0.112
batch 51: loss=0.164
batch 52: loss=0.173
batch 53: loss=0.130
batch 54: loss=0.124
batch 55: loss=0.290
batch 56: loss=0.322
batch 57: loss=0.345
batch 58: loss=0.190
batch 59: loss=0.351
batch 60: loss=0.226
batch 61: loss=0.207
batch 62: loss=0.232
batch 63: loss=0.174
batch 64: loss=0.116
batch 65: loss=0.146
batch 66: loss=0.090
batch 67: loss=0.282
batch 68: loss=0.331
batch 69: loss=0.106
batch 70: loss=0.410
batch 71: loss=0.068
batch 72: loss=0.131
batch 73: loss=0.299
batch 74: loss=0.281
batch 75: loss=0.202
batch 76: loss=0.282
batch 77: loss=0.211
batch 78: loss=0.300
batch 79: loss=0.211

batch 80: loss=0.399
batch 81: loss=0.330
batch 82: loss=0.461
Testing on validation set
acc=0.925

Training epoch 32

batch 1: loss=0.149
batch 2: loss=0.253
batch 3: loss=0.184
batch 4: loss=0.138
batch 5: loss=0.265
batch 6: loss=0.298
batch 7: loss=0.247
batch 8: loss=0.133
batch 9: loss=0.305
batch 10: loss=0.274
batch 11: loss=0.237
batch 12: loss=0.242
batch 13: loss=0.115
batch 14: loss=0.155
batch 15: loss=0.054
batch 16: loss=0.230
batch 17: loss=0.337
batch 18: loss=0.302
batch 19: loss=0.265
batch 20: loss=0.168
batch 21: loss=0.210
batch 22: loss=0.226
batch 23: loss=0.297
batch 24: loss=0.395
batch 25: loss=0.511
batch 26: loss=0.162
batch 27: loss=0.158
batch 28: loss=0.083
batch 29: loss=0.218
batch 30: loss=0.181
batch 31: loss=0.239
batch 32: loss=0.239
batch 33: loss=0.216
batch 34: loss=0.125
batch 35: loss=0.211
batch 36: loss=0.190
batch 37: loss=0.372
batch 38: loss=0.229
batch 39: loss=0.117
batch 40: loss=0.292
batch 41: loss=0.263
batch 42: loss=0.327

```
batch 43: loss=0.183
batch 44: loss=0.213
batch 45: loss=0.221
batch 46: loss=0.377
batch 47: loss=0.164
batch 48: loss=0.240
batch 49: loss=0.139
batch 50: loss=0.354
batch 51: loss=0.043
batch 52: loss=0.270
batch 53: loss=0.476
batch 54: loss=0.354
batch 55: loss=0.342
batch 56: loss=0.221
batch 57: loss=0.070
batch 58: loss=0.208
batch 59: loss=0.124
batch 60: loss=0.138
batch 61: loss=0.158
batch 62: loss=0.212
batch 63: loss=0.292
batch 64: loss=0.182
batch 65: loss=0.190
batch 66: loss=0.140
batch 67: loss=0.267
batch 68: loss=0.183
batch 69: loss=0.402
batch 70: loss=0.334
batch 71: loss=0.173
batch 72: loss=0.070
batch 73: loss=0.108
batch 74: loss=0.221
batch 75: loss=0.204
batch 76: loss=0.332
batch 77: loss=0.221
batch 78: loss=0.205
batch 79: loss=0.249
batch 80: loss=0.157
batch 81: loss=0.250
batch 82: loss=0.352
Testing on validation set
acc=0.933
Training epoch 33
batch 1: loss=0.138
batch 2: loss=0.169
batch 3: loss=0.244
batch 4: loss=0.224
batch 5: loss=0.311
```

batch 6: loss=0.088
batch 7: loss=0.101
batch 8: loss=0.082
batch 9: loss=0.324
batch 10: loss=0.290
batch 11: loss=0.136
batch 12: loss=0.100
batch 13: loss=0.209
batch 14: loss=0.379
batch 15: loss=0.236
batch 16: loss=0.167
batch 17: loss=0.168
batch 18: loss=0.254
batch 19: loss=0.462
batch 20: loss=0.243
batch 21: loss=0.138
batch 22: loss=0.374
batch 23: loss=0.241
batch 24: loss=0.124
batch 25: loss=0.359
batch 26: loss=0.178
batch 27: loss=0.356
batch 28: loss=0.217
batch 29: loss=0.141
batch 30: loss=0.357
batch 31: loss=0.226
batch 32: loss=0.188
batch 33: loss=0.199
batch 34: loss=0.322
batch 35: loss=0.398
batch 36: loss=0.221
batch 37: loss=0.178
batch 38: loss=0.297
batch 39: loss=0.280
batch 40: loss=0.313
batch 41: loss=0.383
batch 42: loss=0.139
batch 43: loss=0.176
batch 44: loss=0.301
batch 45: loss=0.171
batch 46: loss=0.163
batch 47: loss=0.586
batch 48: loss=0.292
batch 49: loss=0.313
batch 50: loss=0.346
batch 51: loss=0.244
batch 52: loss=0.248
batch 53: loss=0.182


```
batch 54: loss=0.305
batch 55: loss=0.067
batch 56: loss=0.195
batch 57: loss=0.203
batch 58: loss=0.197
batch 59: loss=0.201
batch 60: loss=0.343
batch 61: loss=0.298
batch 62: loss=0.299
batch 63: loss=0.190
batch 64: loss=0.466
batch 65: loss=0.186
batch 66: loss=0.201
batch 67: loss=0.143
batch 68: loss=0.137
batch 69: loss=0.288
batch 70: loss=0.395
batch 71: loss=0.218
batch 72: loss=0.294
batch 73: loss=0.230
batch 74: loss=0.219
batch 75: loss=0.163
batch 76: loss=0.164
batch 77: loss=0.239
batch 78: loss=0.211
batch 79: loss=0.336
batch 80: loss=0.191
batch 81: loss=0.309
batch 82: loss=0.477
Testing on validation set
acc=0.909
```

Training epoch 34

```
batch 1: loss=0.174
batch 2: loss=0.160
batch 3: loss=0.277
batch 4: loss=0.047
batch 5: loss=0.245
batch 6: loss=0.247
batch 7: loss=0.205
batch 8: loss=0.123
batch 9: loss=0.315
batch 10: loss=0.154
batch 11: loss=0.224
batch 12: loss=0.105
batch 13: loss=0.343
batch 14: loss=0.470
batch 15: loss=0.139
batch 16: loss=0.142
```

batch 17: loss=0.302
batch 18: loss=0.104
batch 19: loss=0.160
batch 20: loss=0.132
batch 21: loss=0.248
batch 22: loss=0.052
batch 23: loss=0.412
batch 24: loss=0.132
batch 25: loss=0.356
batch 26: loss=0.145
batch 27: loss=0.257
batch 28: loss=0.195
batch 29: loss=0.241
batch 30: loss=0.207
batch 31: loss=0.140
batch 32: loss=0.213
batch 33: loss=0.286
batch 34: loss=0.143
batch 35: loss=0.363
batch 36: loss=0.324
batch 37: loss=0.200
batch 38: loss=0.082
batch 39: loss=0.237
batch 40: loss=0.191
batch 41: loss=0.163
batch 42: loss=0.220
batch 43: loss=0.387
batch 44: loss=0.326
batch 45: loss=0.232
batch 46: loss=0.282
batch 47: loss=0.429
batch 48: loss=0.114
batch 49: loss=0.156
batch 50: loss=0.059
batch 51: loss=0.347
batch 52: loss=0.140
batch 53: loss=0.389
batch 54: loss=0.205
batch 55: loss=0.396
batch 56: loss=0.468
batch 57: loss=0.130
batch 58: loss=0.168
batch 59: loss=0.196
batch 60: loss=0.222
batch 61: loss=0.117
batch 62: loss=0.150
batch 63: loss=0.082
batch 64: loss=0.125

```
batch 65: loss=0.216
batch 66: loss=0.251
batch 67: loss=0.204
batch 68: loss=0.158
batch 69: loss=0.246
batch 70: loss=0.332
batch 71: loss=0.151
batch 72: loss=0.295
batch 73: loss=0.096
batch 74: loss=0.296
batch 75: loss=0.217
batch 76: loss=0.362
batch 77: loss=0.115
batch 78: loss=0.161
batch 79: loss=0.288
batch 80: loss=0.375
batch 81: loss=0.118
batch 82: loss=0.046
Testing on validation set
acc=0.908
```

Training epoch 35

```
batch 1: loss=0.287
batch 2: loss=0.410
batch 3: loss=0.177
batch 4: loss=0.265
batch 5: loss=0.324
batch 6: loss=0.133
batch 7: loss=0.122
batch 8: loss=0.067
batch 9: loss=0.254
batch 10: loss=0.212
batch 11: loss=0.341
batch 12: loss=0.206
batch 13: loss=0.307
batch 14: loss=0.126
batch 15: loss=0.337
batch 16: loss=0.155
batch 17: loss=0.131
batch 18: loss=0.220
batch 19: loss=0.080
batch 20: loss=0.309
batch 21: loss=0.155
batch 22: loss=0.364
batch 23: loss=0.181
batch 24: loss=0.263
batch 25: loss=0.046
batch 26: loss=0.382
batch 27: loss=0.194
```

batch 28: loss=0.302
batch 29: loss=0.186
batch 30: loss=0.119
batch 31: loss=0.182
batch 32: loss=0.371
batch 33: loss=0.218
batch 34: loss=0.333
batch 35: loss=0.306
batch 36: loss=0.203
batch 37: loss=0.244
batch 38: loss=0.330
batch 39: loss=0.055
batch 40: loss=0.114
batch 41: loss=0.185
batch 42: loss=0.125
batch 43: loss=0.117
batch 44: loss=0.216
batch 45: loss=0.485
batch 46: loss=0.150
batch 47: loss=0.412
batch 48: loss=0.164
batch 49: loss=0.104
batch 50: loss=0.216
batch 51: loss=0.116
batch 52: loss=0.358
batch 53: loss=0.273
batch 54: loss=0.265
batch 55: loss=0.220
batch 56: loss=0.292
batch 57: loss=0.131
batch 58: loss=0.227
batch 59: loss=0.075
batch 60: loss=0.190
batch 61: loss=0.136
batch 62: loss=0.336
batch 63: loss=0.231
batch 64: loss=0.168
batch 65: loss=0.153
batch 66: loss=0.229
batch 67: loss=0.256
batch 68: loss=0.261
batch 69: loss=0.279
batch 70: loss=0.202
batch 71: loss=0.320
batch 72: loss=0.126
batch 73: loss=0.186
batch 74: loss=0.258
batch 75: loss=0.125

```
batch 76: loss=0.219
batch 77: loss=0.362
batch 78: loss=0.107
batch 79: loss=0.383
batch 80: loss=0.266
batch 81: loss=0.173
batch 82: loss=0.212
Testing on validation set
acc=0.914
```

Training epoch 36

```
batch 1: loss=0.210
batch 2: loss=0.166
batch 3: loss=0.118
batch 4: loss=0.169
batch 5: loss=0.265
batch 6: loss=0.229
batch 7: loss=0.342
batch 8: loss=0.157
batch 9: loss=0.169
batch 10: loss=0.154
batch 11: loss=0.128
batch 12: loss=0.102
batch 13: loss=0.253
batch 14: loss=0.191
batch 15: loss=0.096
batch 16: loss=0.315
batch 17: loss=0.230
batch 18: loss=0.085
batch 19: loss=0.104
batch 20: loss=0.284
batch 21: loss=0.241
batch 22: loss=0.119
batch 23: loss=0.152
batch 24: loss=0.225
batch 25: loss=0.184
batch 26: loss=0.238
batch 27: loss=0.202
batch 28: loss=0.101
batch 29: loss=0.201
batch 30: loss=0.163
batch 31: loss=0.255
batch 32: loss=0.124
batch 33: loss=0.206
batch 34: loss=0.218
batch 35: loss=0.225
batch 36: loss=0.111
batch 37: loss=0.143
batch 38: loss=0.291
```

```
batch 39: loss=0.240
batch 40: loss=0.270
batch 41: loss=0.266
batch 42: loss=0.220
batch 43: loss=0.161
batch 44: loss=0.355
batch 45: loss=0.174
batch 46: loss=0.215
batch 47: loss=0.271
batch 48: loss=0.177
batch 49: loss=0.244
batch 50: loss=0.112
batch 51: loss=0.250
batch 52: loss=0.279
batch 53: loss=0.154
batch 54: loss=0.301
batch 55: loss=0.315
batch 56: loss=0.358
batch 57: loss=0.141
batch 58: loss=0.331
batch 59: loss=0.247
batch 60: loss=0.142
batch 61: loss=0.429
batch 62: loss=0.225
batch 63: loss=0.177
batch 64: loss=0.246
batch 65: loss=0.260
batch 66: loss=0.360
batch 67: loss=0.298
batch 68: loss=0.265
batch 69: loss=0.184
batch 70: loss=0.160
batch 71: loss=0.192
batch 72: loss=0.203
batch 73: loss=0.108
batch 74: loss=0.398
batch 75: loss=0.057
batch 76: loss=0.178
batch 77: loss=0.198
batch 78: loss=0.173
batch 79: loss=0.068
batch 80: loss=0.317
batch 81: loss=0.192
batch 82: loss=0.210
Testing on validation set
acc=0.913
Training epoch 37
batch 1: loss=0.153
```

batch 2: loss=0.098
batch 3: loss=0.294
batch 4: loss=0.136
batch 5: loss=0.328
batch 6: loss=0.266
batch 7: loss=0.275
batch 8: loss=0.106
batch 9: loss=0.190
batch 10: loss=0.158
batch 11: loss=0.163
batch 12: loss=0.251
batch 13: loss=0.138
batch 14: loss=0.108
batch 15: loss=0.101
batch 16: loss=0.198
batch 17: loss=0.174
batch 18: loss=0.185
batch 19: loss=0.138
batch 20: loss=0.109
batch 21: loss=0.165
batch 22: loss=0.230
batch 23: loss=0.134
batch 24: loss=0.257
batch 25: loss=0.104
batch 26: loss=0.220
batch 27: loss=0.169
batch 28: loss=0.295
batch 29: loss=0.334
batch 30: loss=0.290
batch 31: loss=0.291
batch 32: loss=0.135
batch 33: loss=0.117
batch 34: loss=0.261
batch 35: loss=0.282
batch 36: loss=0.145
batch 37: loss=0.181
batch 38: loss=0.097
batch 39: loss=0.239
batch 40: loss=0.161
batch 41: loss=0.174
batch 42: loss=0.201
batch 43: loss=0.176
batch 44: loss=0.193
batch 45: loss=0.097
batch 46: loss=0.262
batch 47: loss=0.261
batch 48: loss=0.235
batch 49: loss=0.137

```
batch 50: loss=0.246
batch 51: loss=0.262
batch 52: loss=0.256
batch 53: loss=0.202
batch 54: loss=0.372
batch 55: loss=0.160
batch 56: loss=0.239
batch 57: loss=0.192
batch 58: loss=0.324
batch 59: loss=0.218
batch 60: loss=0.245
batch 61: loss=0.167
batch 62: loss=0.072
batch 63: loss=0.322
batch 64: loss=0.328
batch 65: loss=0.146
batch 66: loss=0.274
batch 67: loss=0.211
batch 68: loss=0.189
batch 69: loss=0.263
batch 70: loss=0.215
batch 71: loss=0.238
batch 72: loss=0.112
batch 73: loss=0.200
batch 74: loss=0.314
batch 75: loss=0.402
batch 76: loss=0.233
batch 77: loss=0.315
batch 78: loss=0.380
batch 79: loss=0.233
batch 80: loss=0.242
batch 81: loss=0.125
batch 82: loss=0.554
Testing on validation set
acc=0.915
```

Training epoch 38

```
batch 1: loss=0.177
batch 2: loss=0.215
batch 3: loss=0.104
batch 4: loss=0.166
batch 5: loss=0.140
batch 6: loss=0.247
batch 7: loss=0.143
batch 8: loss=0.079
batch 9: loss=0.135
batch 10: loss=0.230
batch 11: loss=0.065
batch 12: loss=0.459
```


batch 13: loss=0.141
batch 14: loss=0.152
batch 15: loss=0.262
batch 16: loss=0.139
batch 17: loss=0.195
batch 18: loss=0.175
batch 19: loss=0.266
batch 20: loss=0.218
batch 21: loss=0.369
batch 22: loss=0.198
batch 23: loss=0.206
batch 24: loss=0.102
batch 25: loss=0.358
batch 26: loss=0.376
batch 27: loss=0.257
batch 28: loss=0.120
batch 29: loss=0.215
batch 30: loss=0.119
batch 31: loss=0.169
batch 32: loss=0.216
batch 33: loss=0.187
batch 34: loss=0.249
batch 35: loss=0.173
batch 36: loss=0.103
batch 37: loss=0.086
batch 38: loss=0.122
batch 39: loss=0.213
batch 40: loss=0.133
batch 41: loss=0.301
batch 42: loss=0.146
batch 43: loss=0.279
batch 44: loss=0.257
batch 45: loss=0.203
batch 46: loss=0.229
batch 47: loss=0.123
batch 48: loss=0.174
batch 49: loss=0.065
batch 50: loss=0.336
batch 51: loss=0.113
batch 52: loss=0.105
batch 53: loss=0.268
batch 54: loss=0.231
batch 55: loss=0.130
batch 56: loss=0.300
batch 57: loss=0.223
batch 58: loss=0.127
batch 59: loss=0.363
batch 60: loss=0.213

batch 61: loss=0.242
batch 62: loss=0.194
batch 63: loss=0.120
batch 64: loss=0.123
batch 65: loss=0.150
batch 66: loss=0.145
batch 67: loss=0.092
batch 68: loss=0.336
batch 69: loss=0.114
batch 70: loss=0.165
batch 71: loss=0.239
batch 72: loss=0.070
batch 73: loss=0.069
batch 74: loss=0.227
batch 75: loss=0.328
batch 76: loss=0.243
batch 77: loss=0.186
batch 78: loss=0.262
batch 79: loss=0.224
batch 80: loss=0.098
batch 81: loss=0.303
batch 82: loss=0.277

Testing on validation set
acc=0.914

Training epoch 39

batch 1: loss=0.203
batch 2: loss=0.146
batch 3: loss=0.165
batch 4: loss=0.084
batch 5: loss=0.248
batch 6: loss=0.221
batch 7: loss=0.077
batch 8: loss=0.225
batch 9: loss=0.193
batch 10: loss=0.205
batch 11: loss=0.402
batch 12: loss=0.136
batch 13: loss=0.074
batch 14: loss=0.236
batch 15: loss=0.479
batch 16: loss=0.259
batch 17: loss=0.152
batch 18: loss=0.306
batch 19: loss=0.215
batch 20: loss=0.142
batch 21: loss=0.298
batch 22: loss=0.238
batch 23: loss=0.169

batch 24: loss=0.153
batch 25: loss=0.180
batch 26: loss=0.268
batch 27: loss=0.049
batch 28: loss=0.226
batch 29: loss=0.056
batch 30: loss=0.164
batch 31: loss=0.299
batch 32: loss=0.290
batch 33: loss=0.168
batch 34: loss=0.158
batch 35: loss=0.158
batch 36: loss=0.158
batch 37: loss=0.243
batch 38: loss=0.227
batch 39: loss=0.159
batch 40: loss=0.175
batch 41: loss=0.124
batch 42: loss=0.411
batch 43: loss=0.198
batch 44: loss=0.301
batch 45: loss=0.169
batch 46: loss=0.263
batch 47: loss=0.110
batch 48: loss=0.313
batch 49: loss=0.356
batch 50: loss=0.120
batch 51: loss=0.208
batch 52: loss=0.309
batch 53: loss=0.189
batch 54: loss=0.115
batch 55: loss=0.140
batch 56: loss=0.038
batch 57: loss=0.229
batch 58: loss=0.226
batch 59: loss=0.103
batch 60: loss=0.215
batch 61: loss=0.225
batch 62: loss=0.096
batch 63: loss=0.159
batch 64: loss=0.185
batch 65: loss=0.086
batch 66: loss=0.127
batch 67: loss=0.040
batch 68: loss=0.273
batch 69: loss=0.198
batch 70: loss=0.199
batch 71: loss=0.253

```
batch 72: loss=0.206
batch 73: loss=0.173
batch 74: loss=0.401
batch 75: loss=0.142
batch 76: loss=0.520
batch 77: loss=0.218
batch 78: loss=0.259
batch 79: loss=0.372
batch 80: loss=0.169
batch 81: loss=0.204
batch 82: loss=0.374
Testing on validation set
acc=0.917
```

Training epoch 40

```
batch 1: loss=0.130
batch 2: loss=0.088
batch 3: loss=0.142
batch 4: loss=0.264
batch 5: loss=0.137
batch 6: loss=0.469
batch 7: loss=0.198
batch 8: loss=0.102
batch 9: loss=0.079
batch 10: loss=0.099
batch 11: loss=0.127
batch 12: loss=0.252
batch 13: loss=0.308
batch 14: loss=0.299
batch 15: loss=0.372
batch 16: loss=0.203
batch 17: loss=0.205
batch 18: loss=0.286
batch 19: loss=0.242
batch 20: loss=0.202
batch 21: loss=0.175
batch 22: loss=0.232
batch 23: loss=0.110
batch 24: loss=0.194
batch 25: loss=0.136
batch 26: loss=0.293
batch 27: loss=0.136
batch 28: loss=0.177
batch 29: loss=0.159
batch 30: loss=0.128
batch 31: loss=0.112
batch 32: loss=0.232
batch 33: loss=0.159
batch 34: loss=0.256
```

batch 35: loss=0.087
batch 36: loss=0.139
batch 37: loss=0.088
batch 38: loss=0.146
batch 39: loss=0.212
batch 40: loss=0.172
batch 41: loss=0.179
batch 42: loss=0.172
batch 43: loss=0.192
batch 44: loss=0.175
batch 45: loss=0.389
batch 46: loss=0.143
batch 47: loss=0.314
batch 48: loss=0.259
batch 49: loss=0.135
batch 50: loss=0.226
batch 51: loss=0.291
batch 52: loss=0.185
batch 53: loss=0.068
batch 54: loss=0.093
batch 55: loss=0.198
batch 56: loss=0.209
batch 57: loss=0.288
batch 58: loss=0.122
batch 59: loss=0.211
batch 60: loss=0.220
batch 61: loss=0.170
batch 62: loss=0.214
batch 63: loss=0.149
batch 64: loss=0.262
batch 65: loss=0.274
batch 66: loss=0.056
batch 67: loss=0.273
batch 68: loss=0.284
batch 69: loss=0.243
batch 70: loss=0.094
batch 71: loss=0.306
batch 72: loss=0.260
batch 73: loss=0.099
batch 74: loss=0.248
batch 75: loss=0.147
batch 76: loss=0.398
batch 77: loss=0.102
batch 78: loss=0.189
batch 79: loss=0.233
batch 80: loss=0.274
batch 81: loss=0.079
batch 82: loss=0.211

Testing on validation set
acc=0.900

Training epoch 41

batch	1:	loss=0.126
batch	2:	loss=0.289
batch	3:	loss=0.126
batch	4:	loss=0.302
batch	5:	loss=0.152
batch	6:	loss=0.120
batch	7:	loss=0.190
batch	8:	loss=0.249
batch	9:	loss=0.102
batch	10:	loss=0.282
batch	11:	loss=0.216
batch	12:	loss=0.279
batch	13:	loss=0.164
batch	14:	loss=0.135
batch	15:	loss=0.176
batch	16:	loss=0.240
batch	17:	loss=0.175
batch	18:	loss=0.299
batch	19:	loss=0.283
batch	20:	loss=0.083
batch	21:	loss=0.128
batch	22:	loss=0.344
batch	23:	loss=0.172
batch	24:	loss=0.235
batch	25:	loss=0.376
batch	26:	loss=0.352
batch	27:	loss=0.222
batch	28:	loss=0.135
batch	29:	loss=0.227
batch	30:	loss=0.315
batch	31:	loss=0.262
batch	32:	loss=0.077
batch	33:	loss=0.186
batch	34:	loss=0.239
batch	35:	loss=0.253
batch	36:	loss=0.208
batch	37:	loss=0.191
batch	38:	loss=0.322
batch	39:	loss=0.184
batch	40:	loss=0.241
batch	41:	loss=0.264
batch	42:	loss=0.238
batch	43:	loss=0.193
batch	44:	loss=0.224
batch	45:	loss=0.452

```
batch 46: loss=0.215
batch 47: loss=0.177
batch 48: loss=0.526
batch 49: loss=0.154
batch 50: loss=0.246
batch 51: loss=0.040
batch 52: loss=0.053
batch 53: loss=0.179
batch 54: loss=0.301
batch 55: loss=0.438
batch 56: loss=0.034
batch 57: loss=0.313
batch 58: loss=0.242
batch 59: loss=0.177
batch 60: loss=0.184
batch 61: loss=0.221
batch 62: loss=0.097
batch 63: loss=0.228
batch 64: loss=0.285
batch 65: loss=0.146
batch 66: loss=0.087
batch 67: loss=0.078
batch 68: loss=0.417
batch 69: loss=0.246
batch 70: loss=0.066
batch 71: loss=0.229
batch 72: loss=0.184
batch 73: loss=0.157
batch 74: loss=0.095
batch 75: loss=0.216
batch 76: loss=0.215
batch 77: loss=0.278
batch 78: loss=0.237
batch 79: loss=0.114
batch 80: loss=0.217
batch 81: loss=0.276
batch 82: loss=0.444
Testing on validation set
acc=0.899
```

Training epoch 42

```
batch 1: loss=0.205
batch 2: loss=0.169
batch 3: loss=0.286
batch 4: loss=0.205
batch 5: loss=0.159
batch 6: loss=0.057
batch 7: loss=0.226
batch 8: loss=0.225
```

batch 9: loss=0.259
batch 10: loss=0.122
batch 11: loss=0.179
batch 12: loss=0.078
batch 13: loss=0.498
batch 14: loss=0.163
batch 15: loss=0.137
batch 16: loss=0.102
batch 17: loss=0.163
batch 18: loss=0.070
batch 19: loss=0.193
batch 20: loss=0.113
batch 21: loss=0.156
batch 22: loss=0.242
batch 23: loss=0.196
batch 24: loss=0.108
batch 25: loss=0.396
batch 26: loss=0.057
batch 27: loss=0.254
batch 28: loss=0.161
batch 29: loss=0.275
batch 30: loss=0.335
batch 31: loss=0.248
batch 32: loss=0.168
batch 33: loss=0.081
batch 34: loss=0.244
batch 35: loss=0.165
batch 36: loss=0.125
batch 37: loss=0.184
batch 38: loss=0.169
batch 39: loss=0.245
batch 40: loss=0.248
batch 41: loss=0.072
batch 42: loss=0.105
batch 43: loss=0.121
batch 44: loss=0.245
batch 45: loss=0.281
batch 46: loss=0.140
batch 47: loss=0.278
batch 48: loss=0.311
batch 49: loss=0.410
batch 50: loss=0.187
batch 51: loss=0.123
batch 52: loss=0.182
batch 53: loss=0.167
batch 54: loss=0.156
batch 55: loss=0.369
batch 56: loss=0.142

batch 57: loss=0.092
batch 58: loss=0.127
batch 59: loss=0.221
batch 60: loss=0.431
batch 61: loss=0.314
batch 62: loss=0.281
batch 63: loss=0.130
batch 64: loss=0.205
batch 65: loss=0.087
batch 66: loss=0.216
batch 67: loss=0.157
batch 68: loss=0.274
batch 69: loss=0.041
batch 70: loss=0.101
batch 71: loss=0.254
batch 72: loss=0.247
batch 73: loss=0.183
batch 74: loss=0.391
batch 75: loss=0.293
batch 76: loss=0.301
batch 77: loss=0.073
batch 78: loss=0.182
batch 79: loss=0.155
batch 80: loss=0.277
batch 81: loss=0.221
batch 82: loss=0.445

Testing on validation set

acc=0.911

Training epoch 43

batch 1: loss=0.229
batch 2: loss=0.322
batch 3: loss=0.176
batch 4: loss=0.146
batch 5: loss=0.213
batch 6: loss=0.290
batch 7: loss=0.135
batch 8: loss=0.123
batch 9: loss=0.216
batch 10: loss=0.146
batch 11: loss=0.281
batch 12: loss=0.274
batch 13: loss=0.220
batch 14: loss=0.191
batch 15: loss=0.215
batch 16: loss=0.102
batch 17: loss=0.139
batch 18: loss=0.150
batch 19: loss=0.225

batch 20: loss=0.296
batch 21: loss=0.129
batch 22: loss=0.126
batch 23: loss=0.303
batch 24: loss=0.139
batch 25: loss=0.249
batch 26: loss=0.109
batch 27: loss=0.168
batch 28: loss=0.046
batch 29: loss=0.131
batch 30: loss=0.139
batch 31: loss=0.170
batch 32: loss=0.161
batch 33: loss=0.231
batch 34: loss=0.336
batch 35: loss=0.081
batch 36: loss=0.153
batch 37: loss=0.250
batch 38: loss=0.155
batch 39: loss=0.164
batch 40: loss=0.309
batch 41: loss=0.220
batch 42: loss=0.140
batch 43: loss=0.193
batch 44: loss=0.115
batch 45: loss=0.094
batch 46: loss=0.076
batch 47: loss=0.151
batch 48: loss=0.226
batch 49: loss=0.102
batch 50: loss=0.138
batch 51: loss=0.127
batch 52: loss=0.141
batch 53: loss=0.263
batch 54: loss=0.218
batch 55: loss=0.125
batch 56: loss=0.159
batch 57: loss=0.258
batch 58: loss=0.306
batch 59: loss=0.093
batch 60: loss=0.156
batch 61: loss=0.256
batch 62: loss=0.135
batch 63: loss=0.110
batch 64: loss=0.141
batch 65: loss=0.200
batch 66: loss=0.174
batch 67: loss=0.176

```
batch 68: loss=0.258
batch 69: loss=0.201
batch 70: loss=0.273
batch 71: loss=0.309
batch 72: loss=0.135
batch 73: loss=0.046
batch 74: loss=0.215
batch 75: loss=0.132
batch 76: loss=0.233
batch 77: loss=0.301
batch 78: loss=0.330
batch 79: loss=0.231
batch 80: loss=0.267
batch 81: loss=0.136
batch 82: loss=0.337
Testing on validation set
acc=0.917
```

Training epoch 44

```
batch 1: loss=0.279
batch 2: loss=0.188
batch 3: loss=0.098
batch 4: loss=0.099
batch 5: loss=0.217
batch 6: loss=0.248
batch 7: loss=0.165
batch 8: loss=0.238
batch 9: loss=0.317
batch 10: loss=0.182
batch 11: loss=0.168
batch 12: loss=0.125
batch 13: loss=0.312
batch 14: loss=0.158
batch 15: loss=0.216
batch 16: loss=0.247
batch 17: loss=0.202
batch 18: loss=0.317
batch 19: loss=0.150
batch 20: loss=0.124
batch 21: loss=0.087
batch 22: loss=0.117
batch 23: loss=0.125
batch 24: loss=0.070
batch 25: loss=0.090
batch 26: loss=0.162
batch 27: loss=0.397
batch 28: loss=0.272
batch 29: loss=0.282
batch 30: loss=0.289
```

batch 31: loss=0.125
batch 32: loss=0.194
batch 33: loss=0.182
batch 34: loss=0.129
batch 35: loss=0.145
batch 36: loss=0.152
batch 37: loss=0.137
batch 38: loss=0.160
batch 39: loss=0.317
batch 40: loss=0.305
batch 41: loss=0.202
batch 42: loss=0.307
batch 43: loss=0.150
batch 44: loss=0.197
batch 45: loss=0.255
batch 46: loss=0.222
batch 47: loss=0.190
batch 48: loss=0.101
batch 49: loss=0.288
batch 50: loss=0.120
batch 51: loss=0.139
batch 52: loss=0.078
batch 53: loss=0.234
batch 54: loss=0.103
batch 55: loss=0.159
batch 56: loss=0.148
batch 57: loss=0.156
batch 58: loss=0.235
batch 59: loss=0.126
batch 60: loss=0.298
batch 61: loss=0.186
batch 62: loss=0.158
batch 63: loss=0.248
batch 64: loss=0.212
batch 65: loss=0.251
batch 66: loss=0.392
batch 67: loss=0.280
batch 68: loss=0.223
batch 69: loss=0.080
batch 70: loss=0.290
batch 71: loss=0.135
batch 72: loss=0.316
batch 73: loss=0.108
batch 74: loss=0.264
batch 75: loss=0.286
batch 76: loss=0.235
batch 77: loss=0.181
batch 78: loss=0.238

batch 79: loss=0.351
batch 80: loss=0.267
batch 81: loss=0.158
batch 82: loss=0.740
Testing on validation set
acc=0.914

Training epoch 45

batch 1: loss=0.147
batch 2: loss=0.089
batch 3: loss=0.114
batch 4: loss=0.105
batch 5: loss=0.252
batch 6: loss=0.275
batch 7: loss=0.172
batch 8: loss=0.144
batch 9: loss=0.237
batch 10: loss=0.241
batch 11: loss=0.240
batch 12: loss=0.299
batch 13: loss=0.106
batch 14: loss=0.120
batch 15: loss=0.061
batch 16: loss=0.221
batch 17: loss=0.155
batch 18: loss=0.167
batch 19: loss=0.109
batch 20: loss=0.276
batch 21: loss=0.280
batch 22: loss=0.330
batch 23: loss=0.153
batch 24: loss=0.141
batch 25: loss=0.126
batch 26: loss=0.092
batch 27: loss=0.264
batch 28: loss=0.067
batch 29: loss=0.259
batch 30: loss=0.246
batch 31: loss=0.335
batch 32: loss=0.193
batch 33: loss=0.126
batch 34: loss=0.188
batch 35: loss=0.105
batch 36: loss=0.168
batch 37: loss=0.160
batch 38: loss=0.152
batch 39: loss=0.205
batch 40: loss=0.231
batch 41: loss=0.210

```
batch 42: loss=0.191
batch 43: loss=0.286
batch 44: loss=0.110
batch 45: loss=0.195
batch 46: loss=0.164
batch 47: loss=0.208
batch 48: loss=0.094
batch 49: loss=0.155
batch 50: loss=0.190
batch 51: loss=0.162
batch 52: loss=0.223
batch 53: loss=0.178
batch 54: loss=0.245
batch 55: loss=0.205
batch 56: loss=0.280
batch 57: loss=0.098
batch 58: loss=0.220
batch 59: loss=0.115
batch 60: loss=0.187
batch 61: loss=0.347
batch 62: loss=0.231
batch 63: loss=0.212
batch 64: loss=0.151
batch 65: loss=0.164
batch 66: loss=0.254
batch 67: loss=0.150
batch 68: loss=0.103
batch 69: loss=0.113
batch 70: loss=0.212
batch 71: loss=0.044
batch 72: loss=0.197
batch 73: loss=0.201
batch 74: loss=0.170
batch 75: loss=0.283
batch 76: loss=0.244
batch 77: loss=0.090
batch 78: loss=0.235
batch 79: loss=0.260
batch 80: loss=0.193
batch 81: loss=0.220
batch 82: loss=0.096
Testing on validation set
acc=0.919
Training epoch 46
batch 1: loss=0.227
batch 2: loss=0.386
batch 3: loss=0.060
batch 4: loss=0.216
```

batch 5: loss=0.104
batch 6: loss=0.197
batch 7: loss=0.186
batch 8: loss=0.150
batch 9: loss=0.218
batch 10: loss=0.293
batch 11: loss=0.178
batch 12: loss=0.106
batch 13: loss=0.240
batch 14: loss=0.156
batch 15: loss=0.250
batch 16: loss=0.247
batch 17: loss=0.138
batch 18: loss=0.252
batch 19: loss=0.195
batch 20: loss=0.130
batch 21: loss=0.246
batch 22: loss=0.251
batch 23: loss=0.226
batch 24: loss=0.313
batch 25: loss=0.127
batch 26: loss=0.177
batch 27: loss=0.110
batch 28: loss=0.243
batch 29: loss=0.177
batch 30: loss=0.115
batch 31: loss=0.187
batch 32: loss=0.177
batch 33: loss=0.183
batch 34: loss=0.087
batch 35: loss=0.078
batch 36: loss=0.038
batch 37: loss=0.228
batch 38: loss=0.155
batch 39: loss=0.310
batch 40: loss=0.183
batch 41: loss=0.157
batch 42: loss=0.107
batch 43: loss=0.175
batch 44: loss=0.227
batch 45: loss=0.180
batch 46: loss=0.179
batch 47: loss=0.182
batch 48: loss=0.244
batch 49: loss=0.237
batch 50: loss=0.178
batch 51: loss=0.222
batch 52: loss=0.311

```
batch 53: loss=0.210
batch 54: loss=0.224
batch 55: loss=0.262
batch 56: loss=0.283
batch 57: loss=0.160
batch 58: loss=0.184
batch 59: loss=0.276
batch 60: loss=0.194
batch 61: loss=0.128
batch 62: loss=0.328
batch 63: loss=0.254
batch 64: loss=0.163
batch 65: loss=0.282
batch 66: loss=0.195
batch 67: loss=0.226
batch 68: loss=0.153
batch 69: loss=0.243
batch 70: loss=0.263
batch 71: loss=0.110
batch 72: loss=0.052
batch 73: loss=0.215
batch 74: loss=0.145
batch 75: loss=0.177
batch 76: loss=0.275
batch 77: loss=0.158
batch 78: loss=0.193
batch 79: loss=0.179
batch 80: loss=0.107
batch 81: loss=0.392
batch 82: loss=0.144
Testing on validation set
acc=0.901
```

Training epoch 47

```
batch 1: loss=0.152
batch 2: loss=0.193
batch 3: loss=0.083
batch 4: loss=0.214
batch 5: loss=0.210
batch 6: loss=0.098
batch 7: loss=0.131
batch 8: loss=0.168
batch 9: loss=0.092
batch 10: loss=0.212
batch 11: loss=0.253
batch 12: loss=0.246
batch 13: loss=0.268
batch 14: loss=0.170
batch 15: loss=0.198
```


batch 16: loss=0.359
batch 17: loss=0.105
batch 18: loss=0.038
batch 19: loss=0.131
batch 20: loss=0.203
batch 21: loss=0.183
batch 22: loss=0.241
batch 23: loss=0.288
batch 24: loss=0.182
batch 25: loss=0.125
batch 26: loss=0.225
batch 27: loss=0.214
batch 28: loss=0.302
batch 29: loss=0.160
batch 30: loss=0.078
batch 31: loss=0.159
batch 32: loss=0.086
batch 33: loss=0.109
batch 34: loss=0.291
batch 35: loss=0.230
batch 36: loss=0.189
batch 37: loss=0.244
batch 38: loss=0.258
batch 39: loss=0.330
batch 40: loss=0.046
batch 41: loss=0.284
batch 42: loss=0.061
batch 43: loss=0.197
batch 44: loss=0.115
batch 45: loss=0.184
batch 46: loss=0.275
batch 47: loss=0.176
batch 48: loss=0.509
batch 49: loss=0.229
batch 50: loss=0.173
batch 51: loss=0.186
batch 52: loss=0.286
batch 53: loss=0.249
batch 54: loss=0.257
batch 55: loss=0.098
batch 56: loss=0.156
batch 57: loss=0.233
batch 58: loss=0.116
batch 59: loss=0.061
batch 60: loss=0.187
batch 61: loss=0.166
batch 62: loss=0.280
batch 63: loss=0.162

batch 64: loss=0.230
batch 65: loss=0.234
batch 66: loss=0.119
batch 67: loss=0.331
batch 68: loss=0.234
batch 69: loss=0.227
batch 70: loss=0.124
batch 71: loss=0.061
batch 72: loss=0.224
batch 73: loss=0.267
batch 74: loss=0.103
batch 75: loss=0.453
batch 76: loss=0.118
batch 77: loss=0.202
batch 78: loss=0.132
batch 79: loss=0.336
batch 80: loss=0.205
batch 81: loss=0.147
batch 82: loss=0.774

Testing on validation set

acc=0.914

Training epoch 48

batch 1: loss=0.138
batch 2: loss=0.386
batch 3: loss=0.211
batch 4: loss=0.314
batch 5: loss=0.211
batch 6: loss=0.095
batch 7: loss=0.128
batch 8: loss=0.131
batch 9: loss=0.074
batch 10: loss=0.246
batch 11: loss=0.254
batch 12: loss=0.214
batch 13: loss=0.212
batch 14: loss=0.255
batch 15: loss=0.099
batch 16: loss=0.295
batch 17: loss=0.449
batch 18: loss=0.344
batch 19: loss=0.494
batch 20: loss=0.126
batch 21: loss=0.202
batch 22: loss=0.105
batch 23: loss=0.184
batch 24: loss=0.402
batch 25: loss=0.179
batch 26: loss=0.372

batch 27: loss=0.270
batch 28: loss=0.360
batch 29: loss=0.156
batch 30: loss=0.251
batch 31: loss=0.187
batch 32: loss=0.189
batch 33: loss=0.104
batch 34: loss=0.163
batch 35: loss=0.210
batch 36: loss=0.185
batch 37: loss=0.133
batch 38: loss=0.270
batch 39: loss=0.221
batch 40: loss=0.057
batch 41: loss=0.117
batch 42: loss=0.348
batch 43: loss=0.124
batch 44: loss=0.198
batch 45: loss=0.205
batch 46: loss=0.176
batch 47: loss=0.198
batch 48: loss=0.249
batch 49: loss=0.174
batch 50: loss=0.158
batch 51: loss=0.154
batch 52: loss=0.175
batch 53: loss=0.237
batch 54: loss=0.207
batch 55: loss=0.206
batch 56: loss=0.208
batch 57: loss=0.154
batch 58: loss=0.288
batch 59: loss=0.249
batch 60: loss=0.041
batch 61: loss=0.236
batch 62: loss=0.320
batch 63: loss=0.243
batch 64: loss=0.270
batch 65: loss=0.111
batch 66: loss=0.281
batch 67: loss=0.333
batch 68: loss=0.202
batch 69: loss=0.167
batch 70: loss=0.212
batch 71: loss=0.211
batch 72: loss=0.223
batch 73: loss=0.233
batch 74: loss=0.115

```
batch 75: loss=0.056
batch 76: loss=0.184
batch 77: loss=0.188
batch 78: loss=0.161
batch 79: loss=0.133
batch 80: loss=0.156
batch 81: loss=0.134
batch 82: loss=0.188
Testing on validation set
acc=0.906
```

Training epoch 49

```
batch 1: loss=0.231
batch 2: loss=0.211
batch 3: loss=0.157
batch 4: loss=0.159
batch 5: loss=0.062
batch 6: loss=0.156
batch 7: loss=0.133
batch 8: loss=0.098
batch 9: loss=0.237
batch 10: loss=0.122
batch 11: loss=0.213
batch 12: loss=0.201
batch 13: loss=0.130
batch 14: loss=0.129
batch 15: loss=0.207
batch 16: loss=0.118
batch 17: loss=0.034
batch 18: loss=0.310
batch 19: loss=0.139
batch 20: loss=0.165
batch 21: loss=0.197
batch 22: loss=0.164
batch 23: loss=0.195
batch 24: loss=0.103
batch 25: loss=0.274
batch 26: loss=0.218
batch 27: loss=0.197
batch 28: loss=0.213
batch 29: loss=0.090
batch 30: loss=0.117
batch 31: loss=0.142
batch 32: loss=0.061
batch 33: loss=0.056
batch 34: loss=0.253
batch 35: loss=0.189
batch 36: loss=0.253
batch 37: loss=0.090
```

```
batch 38: loss=0.264
batch 39: loss=0.151
batch 40: loss=0.056
batch 41: loss=0.225
batch 42: loss=0.252
batch 43: loss=0.070
batch 44: loss=0.115
batch 45: loss=0.217
batch 46: loss=0.102
batch 47: loss=0.058
batch 48: loss=0.083
batch 49: loss=0.038
batch 50: loss=0.244
batch 51: loss=0.148
batch 52: loss=0.195
batch 53: loss=0.333
batch 54: loss=0.130
batch 55: loss=0.045
batch 56: loss=0.410
batch 57: loss=0.042
batch 58: loss=0.135
batch 59: loss=0.178
batch 60: loss=0.223
batch 61: loss=0.136
batch 62: loss=0.246
batch 63: loss=0.177
batch 64: loss=0.170
batch 65: loss=0.274
batch 66: loss=0.210
batch 67: loss=0.098
batch 68: loss=0.493
batch 69: loss=0.196
batch 70: loss=0.052
batch 71: loss=0.177
batch 72: loss=0.145
batch 73: loss=0.072
batch 74: loss=0.129
batch 75: loss=0.182
batch 76: loss=0.078
batch 77: loss=0.147
batch 78: loss=0.142
batch 79: loss=0.100
batch 80: loss=0.420
batch 81: loss=0.083
batch 82: loss=0.244
Testing on validation set
acc=0.911
acc=0.907
```

```

In [14]: raw_model = torchvision.models.mobilenet_v2(pretrained=False)
         raw_model.classifier[-1] = nn.Linear(raw_model.last_channel, 101)
         raw_model.to(device)

         criterion = nn.CrossEntropyLoss()
         optimizer = torch.optim.SGD(
             raw_model.parameters(),
             lr=args.lr,
             momentum=args.momentum
         )

         args.lr = 0.005
         args.num_epochs = 100

         for e in range(args.num_epochs):
             print('Training epoch {}'.format(e))
             train(args, raw_model, criterion, train_loader, optimizer, device)
             print('Testing on validation set')
             test(args, raw_model, val_loader, device)

```

Training epoch 0

```

batch    1: loss=4.609
batch    2: loss=4.563
batch    3: loss=4.571
batch    4: loss=4.326
batch    5: loss=4.332
batch    6: loss=4.311
batch    7: loss=4.400
batch    8: loss=4.505
batch    9: loss=4.222
batch   10: loss=4.000
batch   11: loss=4.667
batch   12: loss=4.481
batch   13: loss=4.397
batch   14: loss=4.055
batch   15: loss=4.144
batch   16: loss=4.146
batch   17: loss=4.109
batch   18: loss=4.128
batch   19: loss=3.968
batch   20: loss=4.275
batch   21: loss=4.285
batch   22: loss=4.090
batch   23: loss=4.141
batch   24: loss=4.208
batch   25: loss=4.191

```

batch 26: loss=4.244
batch 27: loss=4.184
batch 28: loss=4.513
batch 29: loss=4.271
batch 30: loss=4.273
batch 31: loss=4.143
batch 32: loss=4.366
batch 33: loss=4.086
batch 34: loss=4.380
batch 35: loss=3.912
batch 36: loss=4.282
batch 37: loss=4.155
batch 38: loss=3.963
batch 39: loss=3.815
batch 40: loss=4.017
batch 41: loss=4.190
batch 42: loss=4.443
batch 43: loss=4.183
batch 44: loss=4.143
batch 45: loss=4.067
batch 46: loss=4.131
batch 47: loss=3.781
batch 48: loss=4.117
batch 49: loss=4.138
batch 50: loss=4.030
batch 51: loss=3.725
batch 52: loss=3.830
batch 53: loss=3.851
batch 54: loss=3.958
batch 55: loss=3.671
batch 56: loss=3.786
batch 57: loss=4.112
batch 58: loss=3.679
batch 59: loss=3.826
batch 60: loss=4.210
batch 61: loss=4.071
batch 62: loss=4.043
batch 63: loss=3.846
batch 64: loss=3.728
batch 65: loss=3.513
batch 66: loss=3.835
batch 67: loss=3.852
batch 68: loss=3.963
batch 69: loss=3.465
batch 70: loss=3.813
batch 71: loss=4.103
batch 72: loss=3.512
batch 73: loss=3.727

batch 74: loss=3.448
batch 75: loss=3.571
batch 76: loss=3.960
batch 77: loss=3.937
batch 78: loss=3.518
batch 79: loss=3.742
batch 80: loss=3.894
batch 81: loss=4.057
batch 82: loss=3.777

Testing on validation set
acc=0.192

Training epoch 1

batch 1: loss=3.738
batch 2: loss=3.750
batch 3: loss=3.788
batch 4: loss=3.573
batch 5: loss=3.413
batch 6: loss=3.684
batch 7: loss=3.825
batch 8: loss=3.726
batch 9: loss=4.002
batch 10: loss=3.891
batch 11: loss=3.803
batch 12: loss=3.958
batch 13: loss=3.661
batch 14: loss=3.081
batch 15: loss=3.530
batch 16: loss=3.550
batch 17: loss=3.469
batch 18: loss=3.377
batch 19: loss=3.569
batch 20: loss=3.781
batch 21: loss=3.686
batch 22: loss=3.802
batch 23: loss=3.319
batch 24: loss=3.238
batch 25: loss=3.254
batch 26: loss=3.702
batch 27: loss=3.832
batch 28: loss=3.178
batch 29: loss=3.082
batch 30: loss=3.474
batch 31: loss=3.587
batch 32: loss=3.840
batch 33: loss=3.873
batch 34: loss=3.021
batch 35: loss=3.381
batch 36: loss=3.635

batch 37: loss=3.769
batch 38: loss=3.869
batch 39: loss=3.632
batch 40: loss=3.636
batch 41: loss=3.589
batch 42: loss=3.440
batch 43: loss=3.365
batch 44: loss=2.962
batch 45: loss=3.312
batch 46: loss=3.942
batch 47: loss=3.507
batch 48: loss=3.519
batch 49: loss=3.241
batch 50: loss=3.606
batch 51: loss=3.592
batch 52: loss=3.959
batch 53: loss=3.538
batch 54: loss=3.162
batch 55: loss=3.472
batch 56: loss=3.291
batch 57: loss=3.596
batch 58: loss=3.288
batch 59: loss=3.585
batch 60: loss=3.412
batch 61: loss=3.713
batch 62: loss=3.462
batch 63: loss=3.548
batch 64: loss=3.149
batch 65: loss=3.366
batch 66: loss=3.488
batch 67: loss=3.071
batch 68: loss=3.527
batch 69: loss=3.201
batch 70: loss=3.334
batch 71: loss=3.937
batch 72: loss=3.689
batch 73: loss=3.349
batch 74: loss=3.202
batch 75: loss=3.280
batch 76: loss=3.518
batch 77: loss=3.306
batch 78: loss=3.493
batch 79: loss=3.604
batch 80: loss=3.584
batch 81: loss=3.168
batch 82: loss=3.273
Testing on validation set
acc=0.274

Training epoch 2

batch	1:	loss=2.976
batch	2:	loss=3.363
batch	3:	loss=3.576
batch	4:	loss=3.318
batch	5:	loss=3.443
batch	6:	loss=3.124
batch	7:	loss=3.373
batch	8:	loss=3.223
batch	9:	loss=3.378
batch	10:	loss=3.507
batch	11:	loss=3.472
batch	12:	loss=3.698
batch	13:	loss=3.170
batch	14:	loss=2.929
batch	15:	loss=3.375
batch	16:	loss=3.501
batch	17:	loss=3.069
batch	18:	loss=3.263
batch	19:	loss=3.017
batch	20:	loss=3.483
batch	21:	loss=3.219
batch	22:	loss=3.037
batch	23:	loss=3.516
batch	24:	loss=3.272
batch	25:	loss=3.545
batch	26:	loss=3.347
batch	27:	loss=3.057
batch	28:	loss=3.278
batch	29:	loss=3.343
batch	30:	loss=2.651
batch	31:	loss=3.111
batch	32:	loss=3.550
batch	33:	loss=3.496
batch	34:	loss=3.781
batch	35:	loss=2.971
batch	36:	loss=3.440
batch	37:	loss=3.335
batch	38:	loss=3.306
batch	39:	loss=3.386
batch	40:	loss=3.662
batch	41:	loss=3.083
batch	42:	loss=3.018
batch	43:	loss=3.208
batch	44:	loss=3.362
batch	45:	loss=3.347
batch	46:	loss=3.496
batch	47:	loss=3.181

```
batch 48: loss=3.173
batch 49: loss=3.272
batch 50: loss=3.233
batch 51: loss=3.364
batch 52: loss=2.854
batch 53: loss=3.279
batch 54: loss=3.331
batch 55: loss=3.222
batch 56: loss=2.972
batch 57: loss=2.898
batch 58: loss=3.533
batch 59: loss=3.341
batch 60: loss=2.963
batch 61: loss=2.992
batch 62: loss=3.074
batch 63: loss=3.077
batch 64: loss=3.317
batch 65: loss=3.130
batch 66: loss=3.321
batch 67: loss=3.022
batch 68: loss=2.806
batch 69: loss=3.426
batch 70: loss=3.437
batch 71: loss=3.226
batch 72: loss=3.650
batch 73: loss=2.989
batch 74: loss=2.940
batch 75: loss=3.127
batch 76: loss=2.982
batch 77: loss=3.324
batch 78: loss=3.313
batch 79: loss=3.485
batch 80: loss=3.317
batch 81: loss=3.098
batch 82: loss=3.245
Testing on validation set
acc=0.247
```

Training epoch 3

```
batch 1: loss=3.581
batch 2: loss=3.432
batch 3: loss=3.310
batch 4: loss=2.778
batch 5: loss=3.456
batch 6: loss=3.477
batch 7: loss=3.346
batch 8: loss=3.480
batch 9: loss=3.070
batch 10: loss=3.007
```

batch 11: loss=3.212
batch 12: loss=2.866
batch 13: loss=3.099
batch 14: loss=3.037
batch 15: loss=3.003
batch 16: loss=3.113
batch 17: loss=3.178
batch 18: loss=2.905
batch 19: loss=3.026
batch 20: loss=3.292
batch 21: loss=3.207
batch 22: loss=3.175
batch 23: loss=3.296
batch 24: loss=3.085
batch 25: loss=3.965
batch 26: loss=3.041
batch 27: loss=2.987
batch 28: loss=3.151
batch 29: loss=3.041
batch 30: loss=3.089
batch 31: loss=3.203
batch 32: loss=3.020
batch 33: loss=2.695
batch 34: loss=3.120
batch 35: loss=3.259
batch 36: loss=3.053
batch 37: loss=2.862
batch 38: loss=3.316
batch 39: loss=3.325
batch 40: loss=3.349
batch 41: loss=2.828
batch 42: loss=3.260
batch 43: loss=3.245
batch 44: loss=3.223
batch 45: loss=3.143
batch 46: loss=3.536
batch 47: loss=2.957
batch 48: loss=3.328
batch 49: loss=3.000
batch 50: loss=3.070
batch 51: loss=2.718
batch 52: loss=2.750
batch 53: loss=2.714
batch 54: loss=2.536
batch 55: loss=2.933
batch 56: loss=2.712
batch 57: loss=2.984
batch 58: loss=3.100

batch 59: loss=3.120
batch 60: loss=3.242
batch 61: loss=2.803
batch 62: loss=3.175
batch 63: loss=2.881
batch 64: loss=3.155
batch 65: loss=3.051
batch 66: loss=3.022
batch 67: loss=3.510
batch 68: loss=2.760
batch 69: loss=3.467
batch 70: loss=2.858
batch 71: loss=3.091
batch 72: loss=2.757
batch 73: loss=2.742
batch 74: loss=2.777
batch 75: loss=2.913
batch 76: loss=2.868
batch 77: loss=3.312
batch 78: loss=2.926
batch 79: loss=2.594
batch 80: loss=3.376
batch 81: loss=3.150
batch 82: loss=3.404
Testing on validation set
acc=0.314

Training epoch 4

batch 1: loss=3.396
batch 2: loss=3.066
batch 3: loss=2.545
batch 4: loss=3.083
batch 5: loss=2.738
batch 6: loss=3.172
batch 7: loss=2.901
batch 8: loss=2.843
batch 9: loss=2.862
batch 10: loss=2.895
batch 11: loss=2.833
batch 12: loss=2.938
batch 13: loss=2.847
batch 14: loss=2.827
batch 15: loss=2.426
batch 16: loss=3.219
batch 17: loss=2.996
batch 18: loss=3.401
batch 19: loss=2.749
batch 20: loss=3.161
batch 21: loss=2.748

batch 22: loss=3.031
batch 23: loss=2.832
batch 24: loss=2.851
batch 25: loss=3.118
batch 26: loss=2.706
batch 27: loss=2.572
batch 28: loss=2.789
batch 29: loss=2.647
batch 30: loss=2.792
batch 31: loss=2.674
batch 32: loss=3.247
batch 33: loss=2.967
batch 34: loss=2.912
batch 35: loss=3.322
batch 36: loss=2.910
batch 37: loss=3.201
batch 38: loss=3.287
batch 39: loss=3.030
batch 40: loss=3.130
batch 41: loss=2.974
batch 42: loss=2.656
batch 43: loss=3.030
batch 44: loss=3.107
batch 45: loss=2.804
batch 46: loss=2.944
batch 47: loss=3.032
batch 48: loss=3.349
batch 49: loss=2.802
batch 50: loss=3.271
batch 51: loss=2.840
batch 52: loss=2.799
batch 53: loss=2.956
batch 54: loss=3.368
batch 55: loss=2.825
batch 56: loss=2.852
batch 57: loss=2.730
batch 58: loss=2.747
batch 59: loss=3.298
batch 60: loss=2.976
batch 61: loss=2.655
batch 62: loss=3.136
batch 63: loss=2.511
batch 64: loss=2.584
batch 65: loss=3.201
batch 66: loss=2.956
batch 67: loss=2.908
batch 68: loss=2.316
batch 69: loss=3.326

batch 70: loss=3.263
batch 71: loss=2.795
batch 72: loss=3.064
batch 73: loss=3.277
batch 74: loss=2.932
batch 75: loss=3.062
batch 76: loss=2.632
batch 77: loss=2.852
batch 78: loss=2.884
batch 79: loss=3.279
batch 80: loss=2.804
batch 81: loss=3.149
batch 82: loss=3.246
Testing on validation set
acc=0.350

Training epoch 5

batch 1: loss=2.833
batch 2: loss=2.809
batch 3: loss=2.799
batch 4: loss=3.344
batch 5: loss=2.683
batch 6: loss=2.585
batch 7: loss=3.017
batch 8: loss=2.694
batch 9: loss=2.831
batch 10: loss=2.847
batch 11: loss=3.010
batch 12: loss=2.932
batch 13: loss=3.094
batch 14: loss=3.132
batch 15: loss=2.944
batch 16: loss=2.851
batch 17: loss=3.005
batch 18: loss=2.640
batch 19: loss=3.084
batch 20: loss=2.893
batch 21: loss=2.865
batch 22: loss=2.649
batch 23: loss=2.704
batch 24: loss=2.730
batch 25: loss=2.658
batch 26: loss=2.949
batch 27: loss=3.097
batch 28: loss=3.123
batch 29: loss=2.567
batch 30: loss=2.403
batch 31: loss=2.432
batch 32: loss=2.626

batch 33: loss=2.927
batch 34: loss=2.597
batch 35: loss=2.726
batch 36: loss=2.196
batch 37: loss=3.037
batch 38: loss=2.755
batch 39: loss=2.710
batch 40: loss=3.280
batch 41: loss=2.535
batch 42: loss=2.606
batch 43: loss=2.663
batch 44: loss=3.257
batch 45: loss=3.055
batch 46: loss=2.752
batch 47: loss=2.928
batch 48: loss=2.797
batch 49: loss=2.709
batch 50: loss=2.862
batch 51: loss=2.606
batch 52: loss=2.947
batch 53: loss=2.994
batch 54: loss=2.783
batch 55: loss=2.363
batch 56: loss=3.015
batch 57: loss=3.052
batch 58: loss=2.871
batch 59: loss=2.877
batch 60: loss=2.618
batch 61: loss=2.774
batch 62: loss=2.788
batch 63: loss=2.942
batch 64: loss=2.898
batch 65: loss=2.411
batch 66: loss=3.253
batch 67: loss=2.958
batch 68: loss=2.564
batch 69: loss=2.330
batch 70: loss=2.951
batch 71: loss=2.578
batch 72: loss=2.788
batch 73: loss=2.637
batch 74: loss=2.854
batch 75: loss=2.593
batch 76: loss=2.735
batch 77: loss=2.808
batch 78: loss=2.707
batch 79: loss=3.046
batch 80: loss=3.121

batch 81: loss=2.736
batch 82: loss=3.112
Testing on validation set
acc=0.367

Training epoch 6

batch 1: loss=2.828
batch 2: loss=2.573
batch 3: loss=2.399
batch 4: loss=2.615
batch 5: loss=2.448
batch 6: loss=2.873
batch 7: loss=2.499
batch 8: loss=2.916
batch 9: loss=2.801
batch 10: loss=2.731
batch 11: loss=2.691
batch 12: loss=2.776
batch 13: loss=2.824
batch 14: loss=2.785
batch 15: loss=2.467
batch 16: loss=2.686
batch 17: loss=2.638
batch 18: loss=2.941
batch 19: loss=2.634
batch 20: loss=2.475
batch 21: loss=2.805
batch 22: loss=2.703
batch 23: loss=2.482
batch 24: loss=2.487
batch 25: loss=2.577
batch 26: loss=2.572
batch 27: loss=2.772
batch 28: loss=2.755
batch 29: loss=2.432
batch 30: loss=2.504
batch 31: loss=2.498
batch 32: loss=2.620
batch 33: loss=2.740
batch 34: loss=2.648
batch 35: loss=2.863
batch 36: loss=2.635
batch 37: loss=2.705
batch 38: loss=2.347
batch 39: loss=2.811
batch 40: loss=2.717
batch 41: loss=2.202
batch 42: loss=2.415
batch 43: loss=2.268

batch 44: loss=2.580
batch 45: loss=2.675
batch 46: loss=2.767
batch 47: loss=2.547
batch 48: loss=2.491
batch 49: loss=2.879
batch 50: loss=3.110
batch 51: loss=2.844
batch 52: loss=2.600
batch 53: loss=2.790
batch 54: loss=2.885
batch 55: loss=2.326
batch 56: loss=3.030
batch 57: loss=2.521
batch 58: loss=2.590
batch 59: loss=2.829
batch 60: loss=2.608
batch 61: loss=2.556
batch 62: loss=2.536
batch 63: loss=3.220
batch 64: loss=2.965
batch 65: loss=2.858
batch 66: loss=2.787
batch 67: loss=2.724
batch 68: loss=2.363
batch 69: loss=2.715
batch 70: loss=2.877
batch 71: loss=2.465
batch 72: loss=2.466
batch 73: loss=2.639
batch 74: loss=2.730
batch 75: loss=2.833
batch 76: loss=2.218
batch 77: loss=2.614
batch 78: loss=2.472
batch 79: loss=2.805
batch 80: loss=3.144
batch 81: loss=2.425
batch 82: loss=1.987

Testing on validation set
acc=0.406

Training epoch 7

batch 1: loss=2.484
batch 2: loss=2.512
batch 3: loss=2.397
batch 4: loss=2.453
batch 5: loss=2.465
batch 6: loss=2.383

batch 7: loss=2.430
batch 8: loss=2.532
batch 9: loss=2.891
batch 10: loss=2.496
batch 11: loss=2.259
batch 12: loss=2.393
batch 13: loss=2.190
batch 14: loss=2.659
batch 15: loss=2.731
batch 16: loss=2.743
batch 17: loss=2.925
batch 18: loss=2.338
batch 19: loss=2.498
batch 20: loss=2.545
batch 21: loss=2.746
batch 22: loss=2.477
batch 23: loss=2.588
batch 24: loss=3.134
batch 25: loss=2.509
batch 26: loss=2.537
batch 27: loss=2.806
batch 28: loss=2.801
batch 29: loss=2.673
batch 30: loss=2.642
batch 31: loss=3.009
batch 32: loss=2.651
batch 33: loss=2.367
batch 34: loss=2.589
batch 35: loss=2.260
batch 36: loss=2.143
batch 37: loss=2.771
batch 38: loss=2.574
batch 39: loss=2.005
batch 40: loss=2.555
batch 41: loss=2.484
batch 42: loss=2.784
batch 43: loss=2.601
batch 44: loss=2.660
batch 45: loss=2.856
batch 46: loss=2.599
batch 47: loss=2.779
batch 48: loss=2.629
batch 49: loss=2.939
batch 50: loss=2.437
batch 51: loss=2.470
batch 52: loss=2.650
batch 53: loss=2.461
batch 54: loss=2.891

```
batch 55: loss=3.035
batch 56: loss=2.296
batch 57: loss=2.728
batch 58: loss=2.658
batch 59: loss=2.393
batch 60: loss=2.334
batch 61: loss=2.724
batch 62: loss=2.507
batch 63: loss=2.714
batch 64: loss=2.721
batch 65: loss=2.677
batch 66: loss=2.665
batch 67: loss=2.628
batch 68: loss=2.833
batch 69: loss=2.344
batch 70: loss=3.007
batch 71: loss=2.454
batch 72: loss=2.829
batch 73: loss=2.227
batch 74: loss=2.359
batch 75: loss=2.561
batch 76: loss=2.617
batch 77: loss=2.553
batch 78: loss=2.421
batch 79: loss=2.665
batch 80: loss=2.471
batch 81: loss=3.022
batch 82: loss=2.453
Testing on validation set
acc=0.422
```

Training epoch 8

```
batch 1: loss=2.438
batch 2: loss=2.246
batch 3: loss=2.517
batch 4: loss=2.319
batch 5: loss=2.408
batch 6: loss=2.455
batch 7: loss=2.853
batch 8: loss=2.543
batch 9: loss=2.818
batch 10: loss=2.550
batch 11: loss=2.688
batch 12: loss=2.469
batch 13: loss=2.645
batch 14: loss=2.381
batch 15: loss=2.540
batch 16: loss=2.420
batch 17: loss=2.526
```

batch 18: loss=2.437
batch 19: loss=2.786
batch 20: loss=2.338
batch 21: loss=2.682
batch 22: loss=2.164
batch 23: loss=2.207
batch 24: loss=2.695
batch 25: loss=2.473
batch 26: loss=2.241
batch 27: loss=2.587
batch 28: loss=2.621
batch 29: loss=2.732
batch 30: loss=2.637
batch 31: loss=2.449
batch 32: loss=2.058
batch 33: loss=2.442
batch 34: loss=2.551
batch 35: loss=2.881
batch 36: loss=2.345
batch 37: loss=2.113
batch 38: loss=2.667
batch 39: loss=2.584
batch 40: loss=2.505
batch 41: loss=1.999
batch 42: loss=2.514
batch 43: loss=2.390
batch 44: loss=2.553
batch 45: loss=2.809
batch 46: loss=2.192
batch 47: loss=2.445
batch 48: loss=2.680
batch 49: loss=2.456
batch 50: loss=2.377
batch 51: loss=2.434
batch 52: loss=2.674
batch 53: loss=2.474
batch 54: loss=2.416
batch 55: loss=2.325
batch 56: loss=2.825
batch 57: loss=2.349
batch 58: loss=2.267
batch 59: loss=2.838
batch 60: loss=2.645
batch 61: loss=2.305
batch 62: loss=2.659
batch 63: loss=2.891
batch 64: loss=2.535
batch 65: loss=2.512

```
batch 66: loss=2.544
batch 67: loss=2.693
batch 68: loss=2.628
batch 69: loss=2.365
batch 70: loss=2.091
batch 71: loss=2.302
batch 72: loss=2.395
batch 73: loss=2.731
batch 74: loss=2.148
batch 75: loss=2.617
batch 76: loss=2.274
batch 77: loss=2.590
batch 78: loss=2.682
batch 79: loss=2.323
batch 80: loss=2.287
batch 81: loss=2.764
batch 82: loss=2.409
Testing on validation set
acc=0.443
```

Training epoch 9

```
batch 1: loss=2.259
batch 2: loss=2.027
batch 3: loss=1.844
batch 4: loss=2.479
batch 5: loss=2.653
batch 6: loss=2.292
batch 7: loss=2.178
batch 8: loss=2.444
batch 9: loss=2.486
batch 10: loss=2.373
batch 11: loss=2.288
batch 12: loss=1.957
batch 13: loss=2.650
batch 14: loss=2.431
batch 15: loss=2.647
batch 16: loss=2.280
batch 17: loss=2.119
batch 18: loss=2.400
batch 19: loss=2.474
batch 20: loss=1.984
batch 21: loss=2.541
batch 22: loss=2.553
batch 23: loss=2.208
batch 24: loss=1.890
batch 25: loss=2.218
batch 26: loss=2.164
batch 27: loss=2.101
batch 28: loss=2.220
```

batch 29: loss=2.256
batch 30: loss=2.173
batch 31: loss=2.316
batch 32: loss=2.738
batch 33: loss=2.203
batch 34: loss=1.998
batch 35: loss=2.241
batch 36: loss=2.609
batch 37: loss=2.128
batch 38: loss=2.852
batch 39: loss=2.365
batch 40: loss=2.549
batch 41: loss=1.906
batch 42: loss=2.427
batch 43: loss=2.227
batch 44: loss=2.471
batch 45: loss=2.480
batch 46: loss=2.436
batch 47: loss=2.756
batch 48: loss=2.426
batch 49: loss=2.421
batch 50: loss=2.297
batch 51: loss=2.085
batch 52: loss=2.874
batch 53: loss=2.656
batch 54: loss=2.383
batch 55: loss=2.448
batch 56: loss=2.507
batch 57: loss=2.541
batch 58: loss=2.355
batch 59: loss=2.298
batch 60: loss=2.184
batch 61: loss=2.326
batch 62: loss=2.596
batch 63: loss=2.822
batch 64: loss=2.627
batch 65: loss=2.367
batch 66: loss=2.253
batch 67: loss=2.212
batch 68: loss=2.153
batch 69: loss=2.479
batch 70: loss=2.402
batch 71: loss=2.718
batch 72: loss=2.412
batch 73: loss=2.251
batch 74: loss=2.306
batch 75: loss=2.543
batch 76: loss=2.206

```
batch 77: loss=2.224
batch 78: loss=3.047
batch 79: loss=2.301
batch 80: loss=2.664
batch 81: loss=2.194
batch 82: loss=1.711
Testing on validation set
acc=0.439
```

Training epoch 10

```
batch 1: loss=2.234
batch 2: loss=1.865
batch 3: loss=2.022
batch 4: loss=2.290
batch 5: loss=2.142
batch 6: loss=1.762
batch 7: loss=2.657
batch 8: loss=2.181
batch 9: loss=2.461
batch 10: loss=2.123
batch 11: loss=2.537
batch 12: loss=2.163
batch 13: loss=1.981
batch 14: loss=2.142
batch 15: loss=2.253
batch 16: loss=2.483
batch 17: loss=2.358
batch 18: loss=2.586
batch 19: loss=2.242
batch 20: loss=2.617
batch 21: loss=2.289
batch 22: loss=2.281
batch 23: loss=2.198
batch 24: loss=2.171
batch 25: loss=2.528
batch 26: loss=2.107
batch 27: loss=2.484
batch 28: loss=2.762
batch 29: loss=1.934
batch 30: loss=2.097
batch 31: loss=2.158
batch 32: loss=2.476
batch 33: loss=2.009
batch 34: loss=2.299
batch 35: loss=2.025
batch 36: loss=2.605
batch 37: loss=2.339
batch 38: loss=2.312
batch 39: loss=1.945
```



```
batch 40: loss=2.596
batch 41: loss=2.391
batch 42: loss=2.273
batch 43: loss=2.134
batch 44: loss=2.236
batch 45: loss=2.192
batch 46: loss=2.170
batch 47: loss=2.047
batch 48: loss=2.452
batch 49: loss=2.229
batch 50: loss=2.283
batch 51: loss=2.741
batch 52: loss=2.330
batch 53: loss=2.061
batch 54: loss=2.248
batch 55: loss=2.192
batch 56: loss=2.231
batch 57: loss=1.976
batch 58: loss=2.161
batch 59: loss=2.316
batch 60: loss=1.809
batch 61: loss=2.733
batch 62: loss=2.301
batch 63: loss=2.474
batch 64: loss=2.442
batch 65: loss=2.221
batch 66: loss=2.646
batch 67: loss=2.068
batch 68: loss=2.123
batch 69: loss=2.297
batch 70: loss=2.160
batch 71: loss=2.147
batch 72: loss=1.991
batch 73: loss=2.117
batch 74: loss=2.725
batch 75: loss=1.966
batch 76: loss=2.096
batch 77: loss=2.289
batch 78: loss=2.273
batch 79: loss=2.075
batch 80: loss=2.163
batch 81: loss=2.188
batch 82: loss=3.283
Testing on validation set
acc=0.447
Training epoch 11
batch 1: loss=2.101
batch 2: loss=1.875
```

batch 3: loss=2.190
batch 4: loss=2.139
batch 5: loss=2.112
batch 6: loss=2.220
batch 7: loss=2.255
batch 8: loss=2.058
batch 9: loss=2.274
batch 10: loss=2.198
batch 11: loss=1.954
batch 12: loss=2.013
batch 13: loss=1.946
batch 14: loss=2.120
batch 15: loss=2.447
batch 16: loss=2.185
batch 17: loss=2.307
batch 18: loss=2.149
batch 19: loss=2.440
batch 20: loss=2.102
batch 21: loss=2.249
batch 22: loss=2.314
batch 23: loss=2.272
batch 24: loss=2.921
batch 25: loss=2.151
batch 26: loss=1.884
batch 27: loss=2.488
batch 28: loss=2.018
batch 29: loss=1.774
batch 30: loss=2.708
batch 31: loss=2.358
batch 32: loss=2.040
batch 33: loss=2.640
batch 34: loss=2.638
batch 35: loss=2.531
batch 36: loss=2.161
batch 37: loss=2.396
batch 38: loss=2.294
batch 39: loss=2.070
batch 40: loss=1.929
batch 41: loss=2.538
batch 42: loss=2.854
batch 43: loss=2.435
batch 44: loss=2.637
batch 45: loss=2.427
batch 46: loss=2.425
batch 47: loss=1.829
batch 48: loss=2.175
batch 49: loss=2.392
batch 50: loss=2.502

```
batch 51: loss=2.077
batch 52: loss=2.027
batch 53: loss=1.689
batch 54: loss=2.235
batch 55: loss=2.310
batch 56: loss=1.924
batch 57: loss=2.039
batch 58: loss=2.145
batch 59: loss=2.614
batch 60: loss=2.244
batch 61: loss=2.250
batch 62: loss=2.312
batch 63: loss=2.426
batch 64: loss=2.421
batch 65: loss=2.248
batch 66: loss=2.556
batch 67: loss=2.388
batch 68: loss=1.848
batch 69: loss=2.367
batch 70: loss=2.191
batch 71: loss=2.140
batch 72: loss=1.959
batch 73: loss=1.876
batch 74: loss=2.149
batch 75: loss=2.023
batch 76: loss=2.400
batch 77: loss=2.541
batch 78: loss=2.665
batch 79: loss=2.157
batch 80: loss=1.901
batch 81: loss=2.073
batch 82: loss=2.990
Testing on validation set
acc=0.472
```

Training epoch 12

```
batch 1: loss=1.999
batch 2: loss=1.913
batch 3: loss=2.057
batch 4: loss=2.660
batch 5: loss=1.918
batch 6: loss=2.116
batch 7: loss=2.204
batch 8: loss=2.019
batch 9: loss=2.077
batch 10: loss=1.937
batch 11: loss=2.705
batch 12: loss=2.136
batch 13: loss=2.024
```

batch 14: loss=2.193
batch 15: loss=2.266
batch 16: loss=2.251
batch 17: loss=2.583
batch 18: loss=1.980
batch 19: loss=1.946
batch 20: loss=1.952
batch 21: loss=2.207
batch 22: loss=2.137
batch 23: loss=2.346
batch 24: loss=2.412
batch 25: loss=2.077
batch 26: loss=2.182
batch 27: loss=1.948
batch 28: loss=2.402
batch 29: loss=2.180
batch 30: loss=1.937
batch 31: loss=2.190
batch 32: loss=1.956
batch 33: loss=2.339
batch 34: loss=2.024
batch 35: loss=1.902
batch 36: loss=1.941
batch 37: loss=2.226
batch 38: loss=2.107
batch 39: loss=2.255
batch 40: loss=2.271
batch 41: loss=2.281
batch 42: loss=2.397
batch 43: loss=1.965
batch 44: loss=1.717
batch 45: loss=2.007
batch 46: loss=2.200
batch 47: loss=2.087
batch 48: loss=1.513
batch 49: loss=2.318
batch 50: loss=2.090
batch 51: loss=2.475
batch 52: loss=2.363
batch 53: loss=2.165
batch 54: loss=2.294
batch 55: loss=2.406
batch 56: loss=2.095
batch 57: loss=2.008
batch 58: loss=2.065
batch 59: loss=2.058
batch 60: loss=2.087
batch 61: loss=2.036

batch 62: loss=2.680
batch 63: loss=2.001
batch 64: loss=2.076
batch 65: loss=1.854
batch 66: loss=2.035
batch 67: loss=2.580
batch 68: loss=2.141
batch 69: loss=2.171
batch 70: loss=2.184
batch 71: loss=2.088
batch 72: loss=2.277
batch 73: loss=2.269
batch 74: loss=1.876
batch 75: loss=2.372
batch 76: loss=2.006
batch 77: loss=1.667
batch 78: loss=2.149
batch 79: loss=2.350
batch 80: loss=2.438
batch 81: loss=2.325
batch 82: loss=2.267
Testing on validation set
acc=0.478

Training epoch 13

batch 1: loss=2.075
batch 2: loss=1.846
batch 3: loss=1.981
batch 4: loss=2.212
batch 5: loss=2.013
batch 6: loss=1.702
batch 7: loss=1.907
batch 8: loss=1.985
batch 9: loss=2.055
batch 10: loss=2.163
batch 11: loss=2.011
batch 12: loss=2.186
batch 13: loss=2.198
batch 14: loss=1.962
batch 15: loss=2.042
batch 16: loss=2.144
batch 17: loss=2.165
batch 18: loss=1.848
batch 19: loss=2.288
batch 20: loss=2.253
batch 21: loss=2.248
batch 22: loss=1.938
batch 23: loss=1.753
batch 24: loss=2.072

batch 25: loss=2.233
batch 26: loss=2.048
batch 27: loss=2.467
batch 28: loss=2.555
batch 29: loss=1.873
batch 30: loss=1.987
batch 31: loss=2.028
batch 32: loss=2.065
batch 33: loss=2.082
batch 34: loss=1.874
batch 35: loss=1.929
batch 36: loss=1.976
batch 37: loss=1.964
batch 38: loss=2.161
batch 39: loss=1.809
batch 40: loss=2.280
batch 41: loss=2.340
batch 42: loss=1.867
batch 43: loss=2.044
batch 44: loss=1.861
batch 45: loss=2.191
batch 46: loss=2.121
batch 47: loss=1.787
batch 48: loss=2.118
batch 49: loss=1.818
batch 50: loss=2.332
batch 51: loss=2.250
batch 52: loss=2.145
batch 53: loss=1.874
batch 54: loss=2.249
batch 55: loss=2.149
batch 56: loss=2.162
batch 57: loss=2.124
batch 58: loss=2.182
batch 59: loss=2.345
batch 60: loss=1.821
batch 61: loss=1.991
batch 62: loss=1.985
batch 63: loss=2.092
batch 64: loss=2.050
batch 65: loss=1.688
batch 66: loss=2.074
batch 67: loss=1.973
batch 68: loss=2.244
batch 69: loss=1.853
batch 70: loss=2.270
batch 71: loss=2.251
batch 72: loss=2.327

batch 73: loss=1.954
batch 74: loss=2.696
batch 75: loss=2.071
batch 76: loss=2.598
batch 77: loss=2.324
batch 78: loss=1.858
batch 79: loss=1.991
batch 80: loss=2.113
batch 81: loss=1.866
batch 82: loss=3.036

Testing on validation set
acc=0.518

Training epoch 14

batch 1: loss=1.932
batch 2: loss=1.905
batch 3: loss=1.867
batch 4: loss=1.756
batch 5: loss=2.032
batch 6: loss=2.271
batch 7: loss=1.953
batch 8: loss=1.935
batch 9: loss=2.110
batch 10: loss=1.986
batch 11: loss=1.602
batch 12: loss=2.055
batch 13: loss=1.944
batch 14: loss=2.161
batch 15: loss=1.868
batch 16: loss=2.003
batch 17: loss=2.053
batch 18: loss=1.754
batch 19: loss=2.235
batch 20: loss=1.489
batch 21: loss=1.579
batch 22: loss=1.722
batch 23: loss=1.692
batch 24: loss=2.276
batch 25: loss=2.089
batch 26: loss=1.647
batch 27: loss=1.939
batch 28: loss=2.363
batch 29: loss=2.032
batch 30: loss=2.501
batch 31: loss=2.077
batch 32: loss=2.060
batch 33: loss=2.062
batch 34: loss=1.987
batch 35: loss=1.822

batch 36: loss=1.871
batch 37: loss=2.244
batch 38: loss=2.325
batch 39: loss=1.821
batch 40: loss=2.399
batch 41: loss=2.109
batch 42: loss=1.957
batch 43: loss=2.057
batch 44: loss=1.766
batch 45: loss=2.120
batch 46: loss=1.986
batch 47: loss=1.992
batch 48: loss=1.795
batch 49: loss=1.879
batch 50: loss=1.960
batch 51: loss=1.742
batch 52: loss=1.685
batch 53: loss=1.997
batch 54: loss=1.610
batch 55: loss=2.327
batch 56: loss=1.791
batch 57: loss=2.131
batch 58: loss=2.194
batch 59: loss=2.095
batch 60: loss=2.197
batch 61: loss=1.637
batch 62: loss=1.856
batch 63: loss=2.137
batch 64: loss=2.261
batch 65: loss=1.851
batch 66: loss=2.203
batch 67: loss=1.978
batch 68: loss=1.890
batch 69: loss=1.905
batch 70: loss=2.576
batch 71: loss=2.039
batch 72: loss=1.980
batch 73: loss=1.958
batch 74: loss=2.257
batch 75: loss=2.194
batch 76: loss=2.357
batch 77: loss=1.709
batch 78: loss=1.913
batch 79: loss=2.169
batch 80: loss=2.415
batch 81: loss=2.434
batch 82: loss=2.071
Testing on validation set

acc=0.513

Training epoch 15

batch	1: loss=2.240
batch	2: loss=1.786
batch	3: loss=2.301
batch	4: loss=1.813
batch	5: loss=2.066
batch	6: loss=1.937
batch	7: loss=1.565
batch	8: loss=1.929
batch	9: loss=1.914
batch	10: loss=2.248
batch	11: loss=1.906
batch	12: loss=1.974
batch	13: loss=1.995
batch	14: loss=1.721
batch	15: loss=1.650
batch	16: loss=2.300
batch	17: loss=1.927
batch	18: loss=1.780
batch	19: loss=1.758
batch	20: loss=2.294
batch	21: loss=2.150
batch	22: loss=1.617
batch	23: loss=2.137
batch	24: loss=2.144
batch	25: loss=2.100
batch	26: loss=1.842
batch	27: loss=1.968
batch	28: loss=1.568
batch	29: loss=1.944
batch	30: loss=2.487
batch	31: loss=1.935
batch	32: loss=1.863
batch	33: loss=1.764
batch	34: loss=1.728
batch	35: loss=2.007
batch	36: loss=1.817
batch	37: loss=1.535
batch	38: loss=2.061
batch	39: loss=2.163
batch	40: loss=1.890
batch	41: loss=1.837
batch	42: loss=2.001
batch	43: loss=1.600
batch	44: loss=2.086
batch	45: loss=2.336
batch	46: loss=2.042

batch 47: loss=2.127
batch 48: loss=1.719
batch 49: loss=1.991
batch 50: loss=1.903
batch 51: loss=1.917
batch 52: loss=2.156
batch 53: loss=1.970
batch 54: loss=1.878
batch 55: loss=2.512
batch 56: loss=2.092
batch 57: loss=1.799
batch 58: loss=2.090
batch 59: loss=2.064
batch 60: loss=2.098
batch 61: loss=1.826
batch 62: loss=1.529
batch 63: loss=1.938
batch 64: loss=1.771
batch 65: loss=1.795
batch 66: loss=1.911
batch 67: loss=1.976
batch 68: loss=1.773
batch 69: loss=2.524
batch 70: loss=1.797
batch 71: loss=2.558
batch 72: loss=1.755
batch 73: loss=2.026
batch 74: loss=1.851
batch 75: loss=2.091
batch 76: loss=2.282
batch 77: loss=1.754
batch 78: loss=1.974
batch 79: loss=2.057
batch 80: loss=1.496
batch 81: loss=2.111
batch 82: loss=1.962

Testing on validation set
acc=0.550

Training epoch 16

batch 1: loss=1.832
batch 2: loss=1.503
batch 3: loss=2.046
batch 4: loss=2.129
batch 5: loss=1.806
batch 6: loss=1.866
batch 7: loss=1.945
batch 8: loss=2.082
batch 9: loss=2.040

batch 10: loss=1.727
batch 11: loss=1.805
batch 12: loss=1.697
batch 13: loss=1.741
batch 14: loss=1.762
batch 15: loss=1.757
batch 16: loss=2.551
batch 17: loss=1.756
batch 18: loss=1.536
batch 19: loss=2.206
batch 20: loss=1.505
batch 21: loss=1.856
batch 22: loss=2.116
batch 23: loss=1.675
batch 24: loss=2.287
batch 25: loss=1.864
batch 26: loss=2.124
batch 27: loss=1.825
batch 28: loss=1.754
batch 29: loss=2.130
batch 30: loss=1.976
batch 31: loss=1.652
batch 32: loss=1.680
batch 33: loss=2.076
batch 34: loss=2.085
batch 35: loss=1.920
batch 36: loss=1.820
batch 37: loss=2.284
batch 38: loss=1.964
batch 39: loss=1.824
batch 40: loss=2.053
batch 41: loss=1.864
batch 42: loss=1.793
batch 43: loss=2.155
batch 44: loss=1.916
batch 45: loss=1.734
batch 46: loss=1.689
batch 47: loss=1.839
batch 48: loss=2.179
batch 49: loss=1.973
batch 50: loss=1.951
batch 51: loss=1.617
batch 52: loss=1.923
batch 53: loss=2.093
batch 54: loss=2.110
batch 55: loss=1.888
batch 56: loss=2.167
batch 57: loss=2.027

```
batch 58: loss=1.745
batch 59: loss=1.967
batch 60: loss=1.885
batch 61: loss=1.980
batch 62: loss=2.055
batch 63: loss=1.837
batch 64: loss=1.948
batch 65: loss=1.689
batch 66: loss=2.168
batch 67: loss=2.368
batch 68: loss=1.591
batch 69: loss=1.949
batch 70: loss=1.956
batch 71: loss=2.175
batch 72: loss=1.536
batch 73: loss=2.182
batch 74: loss=1.493
batch 75: loss=2.034
batch 76: loss=2.023
batch 77: loss=2.143
batch 78: loss=1.667
batch 79: loss=2.062
batch 80: loss=2.064
batch 81: loss=1.969
batch 82: loss=2.817
Testing on validation set
acc=0.518
```

Training epoch 17

```
batch 1: loss=1.605
batch 2: loss=1.464
batch 3: loss=1.519
batch 4: loss=1.977
batch 5: loss=1.767
batch 6: loss=1.722
batch 7: loss=1.466
batch 8: loss=1.967
batch 9: loss=1.953
batch 10: loss=2.033
batch 11: loss=1.537
batch 12: loss=1.810
batch 13: loss=1.860
batch 14: loss=1.874
batch 15: loss=2.364
batch 16: loss=1.970
batch 17: loss=1.844
batch 18: loss=2.096
batch 19: loss=2.345
batch 20: loss=1.784
```

batch 21: loss=1.649
batch 22: loss=1.781
batch 23: loss=2.057
batch 24: loss=1.729
batch 25: loss=1.586
batch 26: loss=1.849
batch 27: loss=1.959
batch 28: loss=1.687
batch 29: loss=1.580
batch 30: loss=1.434
batch 31: loss=2.489
batch 32: loss=2.045
batch 33: loss=1.718
batch 34: loss=1.708
batch 35: loss=1.851
batch 36: loss=1.464
batch 37: loss=1.621
batch 38: loss=1.770
batch 39: loss=1.685
batch 40: loss=1.863
batch 41: loss=1.968
batch 42: loss=1.832
batch 43: loss=2.151
batch 44: loss=1.879
batch 45: loss=1.848
batch 46: loss=2.162
batch 47: loss=1.632
batch 48: loss=1.462
batch 49: loss=1.691
batch 50: loss=1.642
batch 51: loss=1.853
batch 52: loss=1.853
batch 53: loss=1.927
batch 54: loss=1.706
batch 55: loss=1.598
batch 56: loss=1.923
batch 57: loss=1.946
batch 58: loss=1.571
batch 59: loss=1.937
batch 60: loss=2.192
batch 61: loss=1.837
batch 62: loss=1.936
batch 63: loss=2.088
batch 64: loss=2.228
batch 65: loss=1.725
batch 66: loss=1.863
batch 67: loss=1.760
batch 68: loss=1.658

```
batch 69: loss=1.426
batch 70: loss=1.856
batch 71: loss=1.888
batch 72: loss=2.105
batch 73: loss=2.342
batch 74: loss=1.727
batch 75: loss=1.979
batch 76: loss=2.028
batch 77: loss=2.047
batch 78: loss=1.752
batch 79: loss=1.752
batch 80: loss=2.095
batch 81: loss=1.872
batch 82: loss=2.536
Testing on validation set
acc=0.510
```

Training epoch 18

```
batch 1: loss=1.902
batch 2: loss=1.772
batch 3: loss=1.794
batch 4: loss=1.923
batch 5: loss=1.861
batch 6: loss=1.956
batch 7: loss=1.947
batch 8: loss=1.684
batch 9: loss=1.890
batch 10: loss=2.027
batch 11: loss=1.792
batch 12: loss=1.903
batch 13: loss=1.797
batch 14: loss=2.067
batch 15: loss=1.713
batch 16: loss=1.598
batch 17: loss=1.564
batch 18: loss=1.956
batch 19: loss=2.117
batch 20: loss=1.550
batch 21: loss=1.940
batch 22: loss=1.840
batch 23: loss=1.881
batch 24: loss=1.711
batch 25: loss=1.624
batch 26: loss=1.853
batch 27: loss=1.626
batch 28: loss=1.574
batch 29: loss=1.374
batch 30: loss=1.987
batch 31: loss=1.503
```

batch 32: loss=1.486
batch 33: loss=2.357
batch 34: loss=1.858
batch 35: loss=2.132
batch 36: loss=2.194
batch 37: loss=1.696
batch 38: loss=1.777
batch 39: loss=1.494
batch 40: loss=1.753
batch 41: loss=1.408
batch 42: loss=1.978
batch 43: loss=1.653
batch 44: loss=2.063
batch 45: loss=1.876
batch 46: loss=1.672
batch 47: loss=1.614
batch 48: loss=2.023
batch 49: loss=1.445
batch 50: loss=1.962
batch 51: loss=1.810
batch 52: loss=1.857
batch 53: loss=1.800
batch 54: loss=2.295
batch 55: loss=1.701
batch 56: loss=1.691
batch 57: loss=1.775
batch 58: loss=1.686
batch 59: loss=1.902
batch 60: loss=1.573
batch 61: loss=1.234
batch 62: loss=1.496
batch 63: loss=1.920
batch 64: loss=1.981
batch 65: loss=1.907
batch 66: loss=1.779
batch 67: loss=1.549
batch 68: loss=1.756
batch 69: loss=2.094
batch 70: loss=1.756
batch 71: loss=2.050
batch 72: loss=1.741
batch 73: loss=1.755
batch 74: loss=1.502
batch 75: loss=1.415
batch 76: loss=1.719
batch 77: loss=1.841
batch 78: loss=1.774
batch 79: loss=2.261

batch 80: loss=1.686
batch 81: loss=1.534
batch 82: loss=2.144
Testing on validation set
acc=0.549

Training epoch 19

batch 1: loss=1.748
batch 2: loss=1.900
batch 3: loss=1.974
batch 4: loss=1.595
batch 5: loss=1.722
batch 6: loss=1.951
batch 7: loss=1.566
batch 8: loss=1.396
batch 9: loss=1.779
batch 10: loss=1.660
batch 11: loss=1.788
batch 12: loss=1.436
batch 13: loss=1.592
batch 14: loss=1.675
batch 15: loss=1.688
batch 16: loss=1.311
batch 17: loss=1.440
batch 18: loss=1.330
batch 19: loss=1.860
batch 20: loss=1.847
batch 21: loss=1.827
batch 22: loss=1.780
batch 23: loss=1.833
batch 24: loss=1.794
batch 25: loss=1.641
batch 26: loss=1.561
batch 27: loss=1.743
batch 28: loss=1.544
batch 29: loss=1.625
batch 30: loss=1.741
batch 31: loss=1.853
batch 32: loss=1.788
batch 33: loss=1.534
batch 34: loss=1.353
batch 35: loss=1.423
batch 36: loss=1.338
batch 37: loss=1.603
batch 38: loss=2.128
batch 39: loss=1.814
batch 40: loss=1.938
batch 41: loss=1.929
batch 42: loss=2.293


```
batch 43: loss=1.612
batch 44: loss=1.573
batch 45: loss=1.417
batch 46: loss=1.837
batch 47: loss=1.819
batch 48: loss=1.846
batch 49: loss=1.738
batch 50: loss=1.516
batch 51: loss=1.187
batch 52: loss=1.721
batch 53: loss=1.693
batch 54: loss=1.758
batch 55: loss=1.486
batch 56: loss=1.709
batch 57: loss=1.759
batch 58: loss=2.156
batch 59: loss=1.696
batch 60: loss=1.943
batch 61: loss=1.650
batch 62: loss=1.709
batch 63: loss=1.942
batch 64: loss=1.906
batch 65: loss=1.841
batch 66: loss=1.652
batch 67: loss=1.714
batch 68: loss=1.415
batch 69: loss=1.635
batch 70: loss=2.137
batch 71: loss=1.816
batch 72: loss=1.950
batch 73: loss=1.896
batch 74: loss=1.437
batch 75: loss=1.700
batch 76: loss=1.881
batch 77: loss=1.978
batch 78: loss=1.872
batch 79: loss=2.287
batch 80: loss=1.660
batch 81: loss=1.976
batch 82: loss=2.776
Testing on validation set
acc=0.558
Training epoch 20
batch 1: loss=1.090
batch 2: loss=1.783
batch 3: loss=1.588
batch 4: loss=1.802
batch 5: loss=1.832
```

batch 6: loss=1.622
batch 7: loss=1.763
batch 8: loss=1.766
batch 9: loss=1.606
batch 10: loss=1.628
batch 11: loss=1.810
batch 12: loss=1.567
batch 13: loss=1.831
batch 14: loss=1.589
batch 15: loss=1.726
batch 16: loss=1.911
batch 17: loss=1.812
batch 18: loss=1.863
batch 19: loss=1.796
batch 20: loss=1.650
batch 21: loss=1.787
batch 22: loss=1.442
batch 23: loss=1.372
batch 24: loss=1.734
batch 25: loss=1.860
batch 26: loss=1.653
batch 27: loss=1.794
batch 28: loss=1.625
batch 29: loss=1.306
batch 30: loss=1.785
batch 31: loss=2.023
batch 32: loss=1.728
batch 33: loss=1.455
batch 34: loss=1.647
batch 35: loss=1.342
batch 36: loss=1.969
batch 37: loss=1.972
batch 38: loss=1.884
batch 39: loss=1.983
batch 40: loss=1.674
batch 41: loss=1.679
batch 42: loss=1.833
batch 43: loss=1.716
batch 44: loss=1.681
batch 45: loss=1.720
batch 46: loss=1.653
batch 47: loss=1.681
batch 48: loss=2.095
batch 49: loss=2.195
batch 50: loss=1.885
batch 51: loss=1.511
batch 52: loss=1.765
batch 53: loss=2.097

batch 54: loss=1.577
batch 55: loss=2.286
batch 56: loss=1.484
batch 57: loss=1.840
batch 58: loss=1.306
batch 59: loss=1.552
batch 60: loss=1.926
batch 61: loss=1.572
batch 62: loss=1.592
batch 63: loss=1.676
batch 64: loss=1.263
batch 65: loss=1.997
batch 66: loss=1.450
batch 67: loss=1.768
batch 68: loss=1.808
batch 69: loss=1.321
batch 70: loss=1.742
batch 71: loss=1.152
batch 72: loss=1.521
batch 73: loss=1.477
batch 74: loss=1.646
batch 75: loss=1.622
batch 76: loss=1.398
batch 77: loss=1.720
batch 78: loss=2.061
batch 79: loss=1.536
batch 80: loss=1.312
batch 81: loss=2.124
batch 82: loss=1.270
Testing on validation set
acc=0.570

Training epoch 21

batch 1: loss=1.868
batch 2: loss=1.463
batch 3: loss=1.651
batch 4: loss=1.715
batch 5: loss=1.504
batch 6: loss=1.576
batch 7: loss=1.666
batch 8: loss=1.742
batch 9: loss=1.693
batch 10: loss=1.523
batch 11: loss=1.862
batch 12: loss=1.292
batch 13: loss=1.425
batch 14: loss=1.729
batch 15: loss=1.887
batch 16: loss=1.839

batch 17: loss=1.444
batch 18: loss=2.106
batch 19: loss=1.533
batch 20: loss=1.601
batch 21: loss=1.607
batch 22: loss=1.636
batch 23: loss=1.727
batch 24: loss=1.828
batch 25: loss=1.620
batch 26: loss=1.751
batch 27: loss=1.568
batch 28: loss=1.525
batch 29: loss=1.679
batch 30: loss=1.025
batch 31: loss=1.594
batch 32: loss=1.635
batch 33: loss=1.740
batch 34: loss=1.357
batch 35: loss=1.688
batch 36: loss=1.874
batch 37: loss=1.828
batch 38: loss=1.770
batch 39: loss=2.099
batch 40: loss=2.056
batch 41: loss=1.359
batch 42: loss=2.011
batch 43: loss=1.449
batch 44: loss=1.656
batch 45: loss=1.834
batch 46: loss=1.359
batch 47: loss=1.682
batch 48: loss=1.841
batch 49: loss=1.652
batch 50: loss=1.546
batch 51: loss=1.734
batch 52: loss=1.838
batch 53: loss=1.839
batch 54: loss=2.001
batch 55: loss=1.377
batch 56: loss=1.508
batch 57: loss=1.635
batch 58: loss=1.637
batch 59: loss=1.716
batch 60: loss=1.619
batch 61: loss=1.437
batch 62: loss=1.591
batch 63: loss=1.861
batch 64: loss=1.635

```
batch 65: loss=1.673
batch 66: loss=1.486
batch 67: loss=1.742
batch 68: loss=1.465
batch 69: loss=1.670
batch 70: loss=1.826
batch 71: loss=1.568
batch 72: loss=1.510
batch 73: loss=1.768
batch 74: loss=1.566
batch 75: loss=1.456
batch 76: loss=1.457
batch 77: loss=1.875
batch 78: loss=1.781
batch 79: loss=1.984
batch 80: loss=1.565
batch 81: loss=1.478
batch 82: loss=1.048
Testing on validation set
acc=0.551
```

Training epoch 22

```
batch 1: loss=1.788
batch 2: loss=1.304
batch 3: loss=1.725
batch 4: loss=1.522
batch 5: loss=1.434
batch 6: loss=1.728
batch 7: loss=1.293
batch 8: loss=1.436
batch 9: loss=1.727
batch 10: loss=1.110
batch 11: loss=1.257
batch 12: loss=1.791
batch 13: loss=1.761
batch 14: loss=1.758
batch 15: loss=1.569
batch 16: loss=1.826
batch 17: loss=1.764
batch 18: loss=1.524
batch 19: loss=1.312
batch 20: loss=1.574
batch 21: loss=1.517
batch 22: loss=1.880
batch 23: loss=1.523
batch 24: loss=1.271
batch 25: loss=1.726
batch 26: loss=1.655
batch 27: loss=1.550
```

batch 28: loss=1.965
batch 29: loss=1.473
batch 30: loss=1.638
batch 31: loss=1.354
batch 32: loss=1.415
batch 33: loss=1.267
batch 34: loss=1.558
batch 35: loss=1.676
batch 36: loss=1.556
batch 37: loss=2.087
batch 38: loss=2.073
batch 39: loss=1.864
batch 40: loss=1.952
batch 41: loss=1.635
batch 42: loss=1.938
batch 43: loss=1.390
batch 44: loss=1.619
batch 45: loss=1.532
batch 46: loss=1.445
batch 47: loss=1.624
batch 48: loss=1.554
batch 49: loss=2.075
batch 50: loss=1.724
batch 51: loss=1.540
batch 52: loss=1.604
batch 53: loss=1.974
batch 54: loss=1.684
batch 55: loss=1.588
batch 56: loss=1.516
batch 57: loss=1.797
batch 58: loss=1.540
batch 59: loss=1.364
batch 60: loss=1.760
batch 61: loss=1.372
batch 62: loss=2.135
batch 63: loss=2.027
batch 64: loss=1.518
batch 65: loss=1.582
batch 66: loss=2.204
batch 67: loss=1.678
batch 68: loss=1.211
batch 69: loss=1.418
batch 70: loss=1.507
batch 71: loss=1.442
batch 72: loss=1.429
batch 73: loss=1.297
batch 74: loss=1.623
batch 75: loss=2.144

```
batch 76: loss=1.506
batch 77: loss=1.721
batch 78: loss=1.627
batch 79: loss=1.545
batch 80: loss=1.373
batch 81: loss=1.783
batch 82: loss=1.369
Testing on validation set
acc=0.585
```

Training epoch 23

```
batch 1: loss=1.509
batch 2: loss=1.295
batch 3: loss=1.550
batch 4: loss=1.718
batch 5: loss=1.694
batch 6: loss=1.517
batch 7: loss=1.694
batch 8: loss=1.744
batch 9: loss=1.561
batch 10: loss=1.453
batch 11: loss=1.465
batch 12: loss=1.698
batch 13: loss=1.844
batch 14: loss=1.651
batch 15: loss=1.695
batch 16: loss=1.545
batch 17: loss=1.371
batch 18: loss=1.651
batch 19: loss=1.643
batch 20: loss=1.211
batch 21: loss=1.648
batch 22: loss=1.733
batch 23: loss=1.293
batch 24: loss=1.688
batch 25: loss=2.032
batch 26: loss=1.766
batch 27: loss=1.762
batch 28: loss=1.635
batch 29: loss=1.673
batch 30: loss=1.503
batch 31: loss=1.557
batch 32: loss=1.279
batch 33: loss=1.347
batch 34: loss=1.483
batch 35: loss=1.526
batch 36: loss=1.590
batch 37: loss=1.742
batch 38: loss=2.075
```

```
batch 39: loss=1.819
batch 40: loss=1.404
batch 41: loss=1.774
batch 42: loss=1.425
batch 43: loss=1.522
batch 44: loss=1.571
batch 45: loss=1.949
batch 46: loss=1.120
batch 47: loss=1.795
batch 48: loss=1.510
batch 49: loss=1.819
batch 50: loss=1.624
batch 51: loss=1.683
batch 52: loss=1.422
batch 53: loss=1.326
batch 54: loss=1.380
batch 55: loss=1.747
batch 56: loss=1.511
batch 57: loss=1.294
batch 58: loss=1.340
batch 59: loss=1.838
batch 60: loss=1.308
batch 61: loss=1.715
batch 62: loss=1.500
batch 63: loss=1.567
batch 64: loss=1.674
batch 65: loss=1.910
batch 66: loss=1.552
batch 67: loss=1.677
batch 68: loss=1.268
batch 69: loss=1.740
batch 70: loss=1.643
batch 71: loss=1.370
batch 72: loss=1.568
batch 73: loss=1.284
batch 74: loss=1.560
batch 75: loss=1.510
batch 76: loss=1.410
batch 77: loss=1.740
batch 78: loss=1.750
batch 79: loss=1.571
batch 80: loss=1.292
batch 81: loss=1.640
batch 82: loss=1.048
Testing on validation set
acc=0.591
Training epoch 24
batch 1: loss=1.586
```


batch 2: loss=1.000
batch 3: loss=1.568
batch 4: loss=1.334
batch 5: loss=1.496
batch 6: loss=1.639
batch 7: loss=1.320
batch 8: loss=1.166
batch 9: loss=1.972
batch 10: loss=1.421
batch 11: loss=1.260
batch 12: loss=1.442
batch 13: loss=1.673
batch 14: loss=1.739
batch 15: loss=1.529
batch 16: loss=1.160
batch 17: loss=1.667
batch 18: loss=1.266
batch 19: loss=1.710
batch 20: loss=1.530
batch 21: loss=1.232
batch 22: loss=1.130
batch 23: loss=1.479
batch 24: loss=1.529
batch 25: loss=1.556
batch 26: loss=1.244
batch 27: loss=1.863
batch 28: loss=1.447
batch 29: loss=1.435
batch 30: loss=1.750
batch 31: loss=1.697
batch 32: loss=1.691
batch 33: loss=1.690
batch 34: loss=1.613
batch 35: loss=1.821
batch 36: loss=1.652
batch 37: loss=1.654
batch 38: loss=1.709
batch 39: loss=1.677
batch 40: loss=1.641
batch 41: loss=1.230
batch 42: loss=1.645
batch 43: loss=1.766
batch 44: loss=2.025
batch 45: loss=2.046
batch 46: loss=1.505
batch 47: loss=1.775
batch 48: loss=1.429
batch 49: loss=1.558

```
batch 50: loss=1.979
batch 51: loss=1.502
batch 52: loss=1.659
batch 53: loss=1.385
batch 54: loss=1.223
batch 55: loss=1.314
batch 56: loss=1.609
batch 57: loss=1.758
batch 58: loss=1.893
batch 59: loss=1.652
batch 60: loss=1.609
batch 61: loss=1.709
batch 62: loss=1.529
batch 63: loss=1.828
batch 64: loss=1.906
batch 65: loss=1.253
batch 66: loss=1.567
batch 67: loss=1.889
batch 68: loss=1.089
batch 69: loss=1.604
batch 70: loss=1.797
batch 71: loss=1.547
batch 72: loss=1.953
batch 73: loss=1.580
batch 74: loss=1.827
batch 75: loss=1.205
batch 76: loss=1.365
batch 77: loss=1.413
batch 78: loss=1.616
batch 79: loss=1.689
batch 80: loss=1.609
batch 81: loss=1.580
batch 82: loss=2.596
Testing on validation set
acc=0.604
```

Training epoch 25

```
batch 1: loss=1.525
batch 2: loss=1.335
batch 3: loss=1.283
batch 4: loss=1.599
batch 5: loss=1.155
batch 6: loss=1.596
batch 7: loss=1.054
batch 8: loss=1.598
batch 9: loss=1.132
batch 10: loss=1.514
batch 11: loss=1.546
batch 12: loss=1.626
```

batch 13: loss=1.177
batch 14: loss=1.882
batch 15: loss=1.507
batch 16: loss=1.216
batch 17: loss=1.323
batch 18: loss=1.514
batch 19: loss=1.393
batch 20: loss=1.509
batch 21: loss=1.649
batch 22: loss=1.303
batch 23: loss=1.818
batch 24: loss=1.642
batch 25: loss=1.385
batch 26: loss=1.332
batch 27: loss=1.593
batch 28: loss=1.520
batch 29: loss=1.533
batch 30: loss=1.524
batch 31: loss=1.185
batch 32: loss=1.448
batch 33: loss=1.629
batch 34: loss=1.492
batch 35: loss=1.873
batch 36: loss=1.685
batch 37: loss=1.793
batch 38: loss=1.451
batch 39: loss=1.845
batch 40: loss=1.460
batch 41: loss=1.419
batch 42: loss=1.395
batch 43: loss=1.239
batch 44: loss=1.402
batch 45: loss=1.088
batch 46: loss=1.513
batch 47: loss=1.494
batch 48: loss=1.410
batch 49: loss=1.219
batch 50: loss=1.614
batch 51: loss=1.570
batch 52: loss=1.639
batch 53: loss=1.268
batch 54: loss=1.786
batch 55: loss=1.598
batch 56: loss=1.499
batch 57: loss=1.372
batch 58: loss=1.529
batch 59: loss=1.626
batch 60: loss=1.357

batch 61: loss=1.852
batch 62: loss=1.627
batch 63: loss=1.787
batch 64: loss=1.404
batch 65: loss=1.363
batch 66: loss=1.409
batch 67: loss=1.491
batch 68: loss=1.573
batch 69: loss=1.228
batch 70: loss=1.553
batch 71: loss=1.398
batch 72: loss=1.533
batch 73: loss=1.454
batch 74: loss=1.456
batch 75: loss=1.846
batch 76: loss=1.782
batch 77: loss=1.446
batch 78: loss=1.374
batch 79: loss=1.196
batch 80: loss=1.374
batch 81: loss=1.167
batch 82: loss=1.727

Testing on validation set
acc=0.599

Training epoch 26

batch 1: loss=1.487
batch 2: loss=1.649
batch 3: loss=1.221
batch 4: loss=1.692
batch 5: loss=1.460
batch 6: loss=1.286
batch 7: loss=1.550
batch 8: loss=1.474
batch 9: loss=1.291
batch 10: loss=1.419
batch 11: loss=1.822
batch 12: loss=1.332
batch 13: loss=1.587
batch 14: loss=1.789
batch 15: loss=1.296
batch 16: loss=1.340
batch 17: loss=1.548
batch 18: loss=1.695
batch 19: loss=1.420
batch 20: loss=1.269
batch 21: loss=1.433
batch 22: loss=1.484
batch 23: loss=1.602

batch 24: loss=1.166
batch 25: loss=1.360
batch 26: loss=1.562
batch 27: loss=1.094
batch 28: loss=1.152
batch 29: loss=1.625
batch 30: loss=1.398
batch 31: loss=1.397
batch 32: loss=1.758
batch 33: loss=1.443
batch 34: loss=1.472
batch 35: loss=0.937
batch 36: loss=1.068
batch 37: loss=1.250
batch 38: loss=1.495
batch 39: loss=1.379
batch 40: loss=1.307
batch 41: loss=1.432
batch 42: loss=1.335
batch 43: loss=1.590
batch 44: loss=1.345
batch 45: loss=1.350
batch 46: loss=1.299
batch 47: loss=1.699
batch 48: loss=1.687
batch 49: loss=1.578
batch 50: loss=1.599
batch 51: loss=1.326
batch 52: loss=1.816
batch 53: loss=1.418
batch 54: loss=1.534
batch 55: loss=1.046
batch 56: loss=1.459
batch 57: loss=1.197
batch 58: loss=1.599
batch 59: loss=1.387
batch 60: loss=1.591
batch 61: loss=1.535
batch 62: loss=1.399
batch 63: loss=1.635
batch 64: loss=1.475
batch 65: loss=1.135
batch 66: loss=1.125
batch 67: loss=1.279
batch 68: loss=1.480
batch 69: loss=1.867
batch 70: loss=1.401
batch 71: loss=1.547

```
batch 72: loss=1.273
batch 73: loss=1.566
batch 74: loss=1.945
batch 75: loss=1.452
batch 76: loss=1.270
batch 77: loss=1.430
batch 78: loss=1.649
batch 79: loss=1.427
batch 80: loss=1.537
batch 81: loss=1.396
batch 82: loss=1.270
Testing on validation set
acc=0.601
```

Training epoch 27

```
batch 1: loss=1.459
batch 2: loss=1.244
batch 3: loss=1.402
batch 4: loss=1.394
batch 5: loss=1.655
batch 6: loss=1.283
batch 7: loss=1.166
batch 8: loss=1.947
batch 9: loss=1.853
batch 10: loss=1.666
batch 11: loss=1.278
batch 12: loss=1.119
batch 13: loss=1.067
batch 14: loss=1.419
batch 15: loss=1.224
batch 16: loss=1.252
batch 17: loss=1.616
batch 18: loss=1.233
batch 19: loss=1.461
batch 20: loss=1.628
batch 21: loss=1.386
batch 22: loss=1.378
batch 23: loss=1.676
batch 24: loss=1.306
batch 25: loss=1.382
batch 26: loss=1.155
batch 27: loss=1.110
batch 28: loss=1.574
batch 29: loss=1.288
batch 30: loss=1.634
batch 31: loss=1.586
batch 32: loss=1.430
batch 33: loss=1.561
batch 34: loss=1.355
```

batch 35: loss=1.493
batch 36: loss=1.392
batch 37: loss=1.395
batch 38: loss=1.406
batch 39: loss=1.416
batch 40: loss=1.462
batch 41: loss=1.612
batch 42: loss=1.127
batch 43: loss=1.455
batch 44: loss=1.238
batch 45: loss=1.113
batch 46: loss=1.675
batch 47: loss=1.469
batch 48: loss=1.337
batch 49: loss=1.445
batch 50: loss=1.188
batch 51: loss=1.410
batch 52: loss=1.200
batch 53: loss=1.267
batch 54: loss=1.722
batch 55: loss=1.286
batch 56: loss=1.341
batch 57: loss=1.373
batch 58: loss=1.527
batch 59: loss=1.233
batch 60: loss=1.786
batch 61: loss=1.131
batch 62: loss=1.458
batch 63: loss=1.678
batch 64: loss=1.538
batch 65: loss=1.403
batch 66: loss=0.839
batch 67: loss=1.090
batch 68: loss=1.157
batch 69: loss=0.987
batch 70: loss=1.435
batch 71: loss=1.153
batch 72: loss=1.343
batch 73: loss=1.300
batch 74: loss=1.362
batch 75: loss=1.484
batch 76: loss=1.628
batch 77: loss=1.533
batch 78: loss=1.143
batch 79: loss=1.137
batch 80: loss=1.696
batch 81: loss=1.514
batch 82: loss=1.635

Testing on validation set
acc=0.652

Training epoch 28

batch	1:	loss=1.288
batch	2:	loss=0.937
batch	3:	loss=1.253
batch	4:	loss=1.402
batch	5:	loss=1.193
batch	6:	loss=1.199
batch	7:	loss=1.417
batch	8:	loss=1.349
batch	9:	loss=1.442
batch	10:	loss=1.569
batch	11:	loss=1.261
batch	12:	loss=1.301
batch	13:	loss=1.152
batch	14:	loss=1.531
batch	15:	loss=1.159
batch	16:	loss=1.052
batch	17:	loss=1.309
batch	18:	loss=1.673
batch	19:	loss=1.551
batch	20:	loss=1.528
batch	21:	loss=1.357
batch	22:	loss=1.165
batch	23:	loss=1.637
batch	24:	loss=1.452
batch	25:	loss=1.103
batch	26:	loss=1.443
batch	27:	loss=1.236
batch	28:	loss=1.596
batch	29:	loss=1.470
batch	30:	loss=1.483
batch	31:	loss=1.496
batch	32:	loss=1.516
batch	33:	loss=1.296
batch	34:	loss=1.537
batch	35:	loss=1.738
batch	36:	loss=1.747
batch	37:	loss=1.552
batch	38:	loss=1.437
batch	39:	loss=1.676
batch	40:	loss=1.694
batch	41:	loss=1.210
batch	42:	loss=1.503
batch	43:	loss=1.437
batch	44:	loss=1.618
batch	45:	loss=1.318

batch 46: loss=1.214
batch 47: loss=1.403
batch 48: loss=1.503
batch 49: loss=1.443
batch 50: loss=1.914
batch 51: loss=1.551
batch 52: loss=1.368
batch 53: loss=1.403
batch 54: loss=1.535
batch 55: loss=1.274
batch 56: loss=1.341
batch 57: loss=1.398
batch 58: loss=1.172
batch 59: loss=1.190
batch 60: loss=1.522
batch 61: loss=1.368
batch 62: loss=1.413
batch 63: loss=1.568
batch 64: loss=1.381
batch 65: loss=1.304
batch 66: loss=1.419
batch 67: loss=1.112
batch 68: loss=1.571
batch 69: loss=1.202
batch 70: loss=1.427
batch 71: loss=1.209
batch 72: loss=1.269
batch 73: loss=1.258
batch 74: loss=1.496
batch 75: loss=1.406
batch 76: loss=1.553
batch 77: loss=1.414
batch 78: loss=1.443
batch 79: loss=0.923
batch 80: loss=1.327
batch 81: loss=1.425
batch 82: loss=1.870

Testing on validation set
acc=0.630

Training epoch 29

batch 1: loss=1.699
batch 2: loss=1.520
batch 3: loss=1.110
batch 4: loss=1.673
batch 5: loss=1.215
batch 6: loss=1.060
batch 7: loss=1.207
batch 8: loss=1.292

batch 9: loss=1.110
batch 10: loss=1.358
batch 11: loss=1.341
batch 12: loss=1.211
batch 13: loss=1.424
batch 14: loss=1.218
batch 15: loss=1.366
batch 16: loss=1.244
batch 17: loss=1.176
batch 18: loss=1.275
batch 19: loss=1.422
batch 20: loss=1.285
batch 21: loss=1.459
batch 22: loss=1.382
batch 23: loss=1.171
batch 24: loss=1.322
batch 25: loss=0.834
batch 26: loss=1.399
batch 27: loss=1.101
batch 28: loss=1.455
batch 29: loss=1.167
batch 30: loss=1.469
batch 31: loss=1.314
batch 32: loss=1.288
batch 33: loss=1.056
batch 34: loss=1.156
batch 35: loss=1.468
batch 36: loss=1.255
batch 37: loss=1.333
batch 38: loss=1.593
batch 39: loss=1.309
batch 40: loss=1.187
batch 41: loss=1.177
batch 42: loss=1.026
batch 43: loss=1.079
batch 44: loss=1.254
batch 45: loss=1.561
batch 46: loss=1.414
batch 47: loss=1.248
batch 48: loss=1.077
batch 49: loss=1.342
batch 50: loss=1.423
batch 51: loss=1.607
batch 52: loss=1.430
batch 53: loss=1.026
batch 54: loss=1.569
batch 55: loss=1.478
batch 56: loss=1.231

batch 57: loss=1.781
batch 58: loss=1.736
batch 59: loss=1.540
batch 60: loss=1.450
batch 61: loss=1.288
batch 62: loss=1.381
batch 63: loss=1.304
batch 64: loss=1.158
batch 65: loss=1.070
batch 66: loss=1.231
batch 67: loss=1.244
batch 68: loss=1.423
batch 69: loss=1.044
batch 70: loss=1.101
batch 71: loss=1.428
batch 72: loss=1.078
batch 73: loss=1.301
batch 74: loss=1.228
batch 75: loss=1.704
batch 76: loss=1.169
batch 77: loss=1.414
batch 78: loss=1.447
batch 79: loss=1.322
batch 80: loss=1.436
batch 81: loss=1.673
batch 82: loss=1.179

Testing on validation set

acc=0.643

Training epoch 30

batch 1: loss=1.276
batch 2: loss=1.280
batch 3: loss=1.457
batch 4: loss=1.103
batch 5: loss=1.614
batch 6: loss=1.147
batch 7: loss=1.419
batch 8: loss=1.004
batch 9: loss=1.331
batch 10: loss=1.410
batch 11: loss=1.257
batch 12: loss=0.966
batch 13: loss=1.008
batch 14: loss=0.984
batch 15: loss=1.778
batch 16: loss=1.435
batch 17: loss=1.350
batch 18: loss=1.416
batch 19: loss=1.436

batch 20: loss=1.391
batch 21: loss=1.369
batch 22: loss=1.416
batch 23: loss=1.090
batch 24: loss=1.329
batch 25: loss=1.107
batch 26: loss=1.222
batch 27: loss=1.450
batch 28: loss=1.340
batch 29: loss=1.139
batch 30: loss=1.442
batch 31: loss=1.062
batch 32: loss=1.456
batch 33: loss=1.276
batch 34: loss=1.093
batch 35: loss=1.300
batch 36: loss=1.643
batch 37: loss=1.274
batch 38: loss=1.074
batch 39: loss=1.227
batch 40: loss=1.296
batch 41: loss=0.912
batch 42: loss=1.384
batch 43: loss=1.075
batch 44: loss=1.410
batch 45: loss=1.113
batch 46: loss=1.201
batch 47: loss=1.189
batch 48: loss=1.474
batch 49: loss=1.518
batch 50: loss=1.556
batch 51: loss=1.745
batch 52: loss=1.205
batch 53: loss=1.291
batch 54: loss=1.029
batch 55: loss=1.264
batch 56: loss=1.017
batch 57: loss=0.919
batch 58: loss=1.506
batch 59: loss=1.579
batch 60: loss=1.184
batch 61: loss=1.023
batch 62: loss=1.355
batch 63: loss=1.346
batch 64: loss=1.324
batch 65: loss=1.069
batch 66: loss=1.076
batch 67: loss=1.022

batch 68: loss=1.015
batch 69: loss=1.592
batch 70: loss=1.254
batch 71: loss=1.027
batch 72: loss=1.472
batch 73: loss=1.360
batch 74: loss=1.264
batch 75: loss=1.483
batch 76: loss=1.291
batch 77: loss=1.457
batch 78: loss=1.310
batch 79: loss=1.367
batch 80: loss=1.223
batch 81: loss=1.560
batch 82: loss=1.876

Testing on validation set
acc=0.645

Training epoch 31

batch 1: loss=1.349
batch 2: loss=1.548
batch 3: loss=1.049
batch 4: loss=1.380
batch 5: loss=1.153
batch 6: loss=1.287
batch 7: loss=1.205
batch 8: loss=1.233
batch 9: loss=1.229
batch 10: loss=1.042
batch 11: loss=1.110
batch 12: loss=1.369
batch 13: loss=1.101
batch 14: loss=1.632
batch 15: loss=1.156
batch 16: loss=1.363
batch 17: loss=1.370
batch 18: loss=1.497
batch 19: loss=1.074
batch 20: loss=1.374
batch 21: loss=1.473
batch 22: loss=1.270
batch 23: loss=0.922
batch 24: loss=1.214
batch 25: loss=1.365
batch 26: loss=0.978
batch 27: loss=1.392
batch 28: loss=1.266
batch 29: loss=1.108
batch 30: loss=1.076

batch 31: loss=1.569
batch 32: loss=1.012
batch 33: loss=1.363
batch 34: loss=1.297
batch 35: loss=1.392
batch 36: loss=1.461
batch 37: loss=1.136
batch 38: loss=1.137
batch 39: loss=1.261
batch 40: loss=0.912
batch 41: loss=1.212
batch 42: loss=1.488
batch 43: loss=1.431
batch 44: loss=1.246
batch 45: loss=1.418
batch 46: loss=1.030
batch 47: loss=1.284
batch 48: loss=1.251
batch 49: loss=1.440
batch 50: loss=1.134
batch 51: loss=1.224
batch 52: loss=1.343
batch 53: loss=1.057
batch 54: loss=1.435
batch 55: loss=1.901
batch 56: loss=1.377
batch 57: loss=1.420
batch 58: loss=1.095
batch 59: loss=1.314
batch 60: loss=1.256
batch 61: loss=1.147
batch 62: loss=1.746
batch 63: loss=1.544
batch 64: loss=0.977
batch 65: loss=1.039
batch 66: loss=1.222
batch 67: loss=1.440
batch 68: loss=1.143
batch 69: loss=1.162
batch 70: loss=1.248
batch 71: loss=1.711
batch 72: loss=1.239
batch 73: loss=1.424
batch 74: loss=1.194
batch 75: loss=1.173
batch 76: loss=1.304
batch 77: loss=1.019
batch 78: loss=0.788

batch 79: loss=1.000
batch 80: loss=1.086
batch 81: loss=1.587
batch 82: loss=1.500

Testing on validation set
acc=0.645

Training epoch 32

batch 1: loss=0.805
batch 2: loss=1.021
batch 3: loss=1.080
batch 4: loss=1.066
batch 5: loss=0.879
batch 6: loss=1.183
batch 7: loss=1.126
batch 8: loss=0.813
batch 9: loss=0.903
batch 10: loss=2.022
batch 11: loss=1.320
batch 12: loss=0.806
batch 13: loss=1.348
batch 14: loss=1.404
batch 15: loss=1.433
batch 16: loss=1.211
batch 17: loss=1.669
batch 18: loss=1.518
batch 19: loss=1.072
batch 20: loss=0.967
batch 21: loss=1.165
batch 22: loss=1.256
batch 23: loss=1.467
batch 24: loss=1.006
batch 25: loss=1.536
batch 26: loss=1.228
batch 27: loss=1.002
batch 28: loss=1.390
batch 29: loss=1.676
batch 30: loss=1.347
batch 31: loss=1.386
batch 32: loss=1.109
batch 33: loss=1.426
batch 34: loss=1.324
batch 35: loss=1.033
batch 36: loss=1.163
batch 37: loss=0.992
batch 38: loss=1.479
batch 39: loss=1.374
batch 40: loss=1.385
batch 41: loss=1.377

```
batch 42: loss=1.195
batch 43: loss=1.272
batch 44: loss=1.540
batch 45: loss=0.944
batch 46: loss=1.348
batch 47: loss=0.907
batch 48: loss=1.347
batch 49: loss=1.276
batch 50: loss=1.095
batch 51: loss=1.346
batch 52: loss=1.581
batch 53: loss=1.192
batch 54: loss=1.167
batch 55: loss=1.105
batch 56: loss=1.142
batch 57: loss=1.316
batch 58: loss=1.183
batch 59: loss=1.454
batch 60: loss=1.537
batch 61: loss=1.413
batch 62: loss=1.397
batch 63: loss=1.019
batch 64: loss=1.013
batch 65: loss=1.144
batch 66: loss=0.960
batch 67: loss=1.659
batch 68: loss=1.281
batch 69: loss=1.477
batch 70: loss=1.121
batch 71: loss=1.453
batch 72: loss=1.155
batch 73: loss=1.399
batch 74: loss=1.164
batch 75: loss=1.246
batch 76: loss=1.222
batch 77: loss=1.347
batch 78: loss=1.016
batch 79: loss=1.295
batch 80: loss=1.253
batch 81: loss=1.677
batch 82: loss=1.337
Testing on validation set
acc=0.622
Training epoch 33
batch 1: loss=0.936
batch 2: loss=1.106
batch 3: loss=1.062
batch 4: loss=1.259
```


batch 5: loss=1.364
batch 6: loss=1.163
batch 7: loss=1.503
batch 8: loss=0.950
batch 9: loss=1.380
batch 10: loss=0.978
batch 11: loss=1.608
batch 12: loss=1.260
batch 13: loss=0.878
batch 14: loss=1.060
batch 15: loss=1.360
batch 16: loss=1.376
batch 17: loss=1.464
batch 18: loss=1.309
batch 19: loss=1.080
batch 20: loss=1.540
batch 21: loss=1.276
batch 22: loss=1.248
batch 23: loss=1.209
batch 24: loss=1.736
batch 25: loss=1.100
batch 26: loss=1.122
batch 27: loss=1.439
batch 28: loss=1.183
batch 29: loss=0.993
batch 30: loss=1.060
batch 31: loss=1.279
batch 32: loss=1.502
batch 33: loss=1.229
batch 34: loss=1.187
batch 35: loss=1.531
batch 36: loss=1.149
batch 37: loss=1.590
batch 38: loss=1.156
batch 39: loss=1.323
batch 40: loss=1.096
batch 41: loss=1.165
batch 42: loss=1.276
batch 43: loss=0.961
batch 44: loss=1.234
batch 45: loss=1.250
batch 46: loss=1.121
batch 47: loss=1.319
batch 48: loss=1.153
batch 49: loss=1.232
batch 50: loss=1.377
batch 51: loss=1.343
batch 52: loss=0.895

```
batch 53: loss=1.085
batch 54: loss=1.285
batch 55: loss=1.267
batch 56: loss=1.448
batch 57: loss=1.507
batch 58: loss=1.314
batch 59: loss=1.147
batch 60: loss=1.446
batch 61: loss=1.252
batch 62: loss=1.540
batch 63: loss=0.906
batch 64: loss=1.245
batch 65: loss=1.224
batch 66: loss=1.288
batch 67: loss=1.264
batch 68: loss=0.983
batch 69: loss=1.351
batch 70: loss=1.188
batch 71: loss=1.420
batch 72: loss=1.309
batch 73: loss=1.353
batch 74: loss=1.482
batch 75: loss=1.266
batch 76: loss=1.070
batch 77: loss=1.374
batch 78: loss=0.952
batch 79: loss=1.395
batch 80: loss=1.242
batch 81: loss=1.337
batch 82: loss=1.535
Testing on validation set
acc=0.654
```

Training epoch 34

```
batch 1: loss=1.222
batch 2: loss=1.395
batch 3: loss=1.041
batch 4: loss=0.878
batch 5: loss=1.430
batch 6: loss=1.473
batch 7: loss=0.783
batch 8: loss=0.905
batch 9: loss=1.074
batch 10: loss=0.963
batch 11: loss=1.041
batch 12: loss=1.507
batch 13: loss=1.515
batch 14: loss=1.401
batch 15: loss=1.193
```

batch 16: loss=1.177
batch 17: loss=1.597
batch 18: loss=1.634
batch 19: loss=1.328
batch 20: loss=1.156
batch 21: loss=1.145
batch 22: loss=1.165
batch 23: loss=1.228
batch 24: loss=1.150
batch 25: loss=0.862
batch 26: loss=1.083
batch 27: loss=1.463
batch 28: loss=1.239
batch 29: loss=1.044
batch 30: loss=1.434
batch 31: loss=1.146
batch 32: loss=1.103
batch 33: loss=1.374
batch 34: loss=1.781
batch 35: loss=0.883
batch 36: loss=1.156
batch 37: loss=1.319
batch 38: loss=1.525
batch 39: loss=1.219
batch 40: loss=1.068
batch 41: loss=1.226
batch 42: loss=1.111
batch 43: loss=0.999
batch 44: loss=1.108
batch 45: loss=1.045
batch 46: loss=1.667
batch 47: loss=1.115
batch 48: loss=1.032
batch 49: loss=1.261
batch 50: loss=1.438
batch 51: loss=0.847
batch 52: loss=1.164
batch 53: loss=1.143
batch 54: loss=0.790
batch 55: loss=0.877
batch 56: loss=1.552
batch 57: loss=1.250
batch 58: loss=1.344
batch 59: loss=1.378
batch 60: loss=1.072
batch 61: loss=1.133
batch 62: loss=1.608
batch 63: loss=1.312

batch 64: loss=1.433
batch 65: loss=1.205
batch 66: loss=1.004
batch 67: loss=1.546
batch 68: loss=1.249
batch 69: loss=0.995
batch 70: loss=1.104
batch 71: loss=1.038
batch 72: loss=1.434
batch 73: loss=1.169
batch 74: loss=1.192
batch 75: loss=1.336
batch 76: loss=1.246
batch 77: loss=1.248
batch 78: loss=1.124
batch 79: loss=1.146
batch 80: loss=1.505
batch 81: loss=1.313
batch 82: loss=1.285

Testing on validation set

acc=0.643

Training epoch 35

batch 1: loss=0.861
batch 2: loss=1.562
batch 3: loss=1.243
batch 4: loss=1.061
batch 5: loss=1.056
batch 6: loss=1.570
batch 7: loss=0.838
batch 8: loss=1.279
batch 9: loss=1.145
batch 10: loss=1.254
batch 11: loss=1.056
batch 12: loss=1.010
batch 13: loss=1.381
batch 14: loss=1.394
batch 15: loss=1.114
batch 16: loss=1.346
batch 17: loss=0.986
batch 18: loss=1.055
batch 19: loss=1.487
batch 20: loss=0.963
batch 21: loss=1.056
batch 22: loss=0.958
batch 23: loss=1.243
batch 24: loss=1.123
batch 25: loss=1.014
batch 26: loss=0.964

batch 27: loss=0.938
batch 28: loss=0.821
batch 29: loss=1.022
batch 30: loss=1.057
batch 31: loss=1.022
batch 32: loss=1.401
batch 33: loss=0.998
batch 34: loss=1.141
batch 35: loss=1.113
batch 36: loss=1.077
batch 37: loss=0.956
batch 38: loss=1.281
batch 39: loss=1.307
batch 40: loss=0.750
batch 41: loss=1.232
batch 42: loss=1.294
batch 43: loss=1.194
batch 44: loss=0.625
batch 45: loss=0.783
batch 46: loss=1.210
batch 47: loss=1.167
batch 48: loss=1.651
batch 49: loss=1.317
batch 50: loss=1.065
batch 51: loss=1.520
batch 52: loss=1.117
batch 53: loss=0.950
batch 54: loss=1.007
batch 55: loss=1.141
batch 56: loss=1.110
batch 57: loss=1.220
batch 58: loss=1.292
batch 59: loss=0.926
batch 60: loss=0.973
batch 61: loss=1.567
batch 62: loss=1.267
batch 63: loss=0.939
batch 64: loss=1.261
batch 65: loss=1.071
batch 66: loss=0.894
batch 67: loss=1.193
batch 68: loss=1.145
batch 69: loss=1.243
batch 70: loss=0.867
batch 71: loss=0.863
batch 72: loss=0.980
batch 73: loss=1.105
batch 74: loss=1.180

```
batch 75: loss=1.105
batch 76: loss=1.222
batch 77: loss=1.164
batch 78: loss=0.982
batch 79: loss=1.196
batch 80: loss=1.157
batch 81: loss=1.053
batch 82: loss=0.686
Testing on validation set
acc=0.660
```

Training epoch 36

```
batch 1: loss=0.958
batch 2: loss=0.900
batch 3: loss=0.847
batch 4: loss=1.309
batch 5: loss=1.279
batch 6: loss=1.257
batch 7: loss=1.086
batch 8: loss=1.065
batch 9: loss=0.985
batch 10: loss=1.265
batch 11: loss=1.165
batch 12: loss=1.156
batch 13: loss=1.303
batch 14: loss=0.888
batch 15: loss=1.132
batch 16: loss=0.973
batch 17: loss=1.382
batch 18: loss=1.132
batch 19: loss=1.252
batch 20: loss=1.250
batch 21: loss=0.993
batch 22: loss=1.146
batch 23: loss=0.919
batch 24: loss=1.050
batch 25: loss=1.088
batch 26: loss=0.883
batch 27: loss=1.300
batch 28: loss=1.145
batch 29: loss=1.243
batch 30: loss=1.101
batch 31: loss=0.899
batch 32: loss=0.923
batch 33: loss=0.928
batch 34: loss=0.968
batch 35: loss=1.503
batch 36: loss=1.141
batch 37: loss=1.211
```

```
batch 38: loss=0.819
batch 39: loss=1.393
batch 40: loss=1.033
batch 41: loss=0.858
batch 42: loss=0.950
batch 43: loss=1.105
batch 44: loss=0.843
batch 45: loss=1.097
batch 46: loss=1.203
batch 47: loss=1.153
batch 48: loss=0.764
batch 49: loss=0.815
batch 50: loss=1.106
batch 51: loss=1.366
batch 52: loss=1.068
batch 53: loss=1.064
batch 54: loss=1.184
batch 55: loss=1.096
batch 56: loss=1.529
batch 57: loss=1.374
batch 58: loss=1.297
batch 59: loss=1.289
batch 60: loss=1.220
batch 61: loss=1.328
batch 62: loss=0.911
batch 63: loss=1.322
batch 64: loss=1.009
batch 65: loss=1.377
batch 66: loss=1.045
batch 67: loss=1.210
batch 68: loss=1.379
batch 69: loss=1.276
batch 70: loss=0.907
batch 71: loss=1.105
batch 72: loss=1.205
batch 73: loss=0.843
batch 74: loss=1.176
batch 75: loss=0.985
batch 76: loss=1.308
batch 77: loss=1.377
batch 78: loss=1.267
batch 79: loss=1.122
batch 80: loss=1.163
batch 81: loss=1.284
batch 82: loss=1.199
Testing on validation set
acc=0.680
Training epoch 37
```

batch 1: loss=1.230
batch 2: loss=0.900
batch 3: loss=1.057
batch 4: loss=1.030
batch 5: loss=0.977
batch 6: loss=0.811
batch 7: loss=1.138
batch 8: loss=0.913
batch 9: loss=1.074
batch 10: loss=1.294
batch 11: loss=1.031
batch 12: loss=1.329
batch 13: loss=0.851
batch 14: loss=0.929
batch 15: loss=1.006
batch 16: loss=1.341
batch 17: loss=1.107
batch 18: loss=1.087
batch 19: loss=1.167
batch 20: loss=0.876
batch 21: loss=1.197
batch 22: loss=0.887
batch 23: loss=1.316
batch 24: loss=1.224
batch 25: loss=1.419
batch 26: loss=1.265
batch 27: loss=1.065
batch 28: loss=0.761
batch 29: loss=1.499
batch 30: loss=1.095
batch 31: loss=1.246
batch 32: loss=0.987
batch 33: loss=0.906
batch 34: loss=1.020
batch 35: loss=0.975
batch 36: loss=1.051
batch 37: loss=1.274
batch 38: loss=1.198
batch 39: loss=1.054
batch 40: loss=0.940
batch 41: loss=0.926
batch 42: loss=0.832
batch 43: loss=1.190
batch 44: loss=0.841
batch 45: loss=0.869
batch 46: loss=1.310
batch 47: loss=1.111
batch 48: loss=1.175

batch 49: loss=0.953
batch 50: loss=1.202
batch 51: loss=1.055
batch 52: loss=1.655
batch 53: loss=1.081
batch 54: loss=1.004
batch 55: loss=1.001
batch 56: loss=1.243
batch 57: loss=0.927
batch 58: loss=0.915
batch 59: loss=1.036
batch 60: loss=1.551
batch 61: loss=0.678
batch 62: loss=1.707
batch 63: loss=0.846
batch 64: loss=0.873
batch 65: loss=1.374
batch 66: loss=1.457
batch 67: loss=1.334
batch 68: loss=1.043
batch 69: loss=1.306
batch 70: loss=1.125
batch 71: loss=1.392
batch 72: loss=1.136
batch 73: loss=1.192
batch 74: loss=1.220
batch 75: loss=1.277
batch 76: loss=0.880
batch 77: loss=0.876
batch 78: loss=1.460
batch 79: loss=1.133
batch 80: loss=1.007
batch 81: loss=1.152
batch 82: loss=1.539

Testing on validation set

acc=0.658

Training epoch 38

batch 1: loss=1.026
batch 2: loss=1.344
batch 3: loss=0.798
batch 4: loss=0.688
batch 5: loss=1.104
batch 6: loss=1.416
batch 7: loss=1.185
batch 8: loss=1.332
batch 9: loss=1.180
batch 10: loss=0.864
batch 11: loss=1.154

batch 12: loss=1.071
batch 13: loss=0.952
batch 14: loss=1.565
batch 15: loss=1.114
batch 16: loss=0.991
batch 17: loss=1.062
batch 18: loss=1.239
batch 19: loss=0.846
batch 20: loss=1.094
batch 21: loss=1.036
batch 22: loss=1.123
batch 23: loss=1.179
batch 24: loss=1.183
batch 25: loss=0.705
batch 26: loss=0.991
batch 27: loss=1.025
batch 28: loss=0.757
batch 29: loss=1.160
batch 30: loss=1.212
batch 31: loss=1.065
batch 32: loss=0.815
batch 33: loss=1.134
batch 34: loss=0.882
batch 35: loss=1.118
batch 36: loss=0.967
batch 37: loss=1.278
batch 38: loss=0.882
batch 39: loss=1.468
batch 40: loss=1.100
batch 41: loss=1.071
batch 42: loss=1.250
batch 43: loss=0.770
batch 44: loss=1.170
batch 45: loss=1.427
batch 46: loss=1.230
batch 47: loss=1.240
batch 48: loss=0.862
batch 49: loss=1.460
batch 50: loss=1.050
batch 51: loss=1.416
batch 52: loss=1.523
batch 53: loss=0.942
batch 54: loss=1.127
batch 55: loss=0.887
batch 56: loss=1.085
batch 57: loss=1.172
batch 58: loss=1.456
batch 59: loss=0.908

batch 60: loss=1.231
batch 61: loss=1.575
batch 62: loss=1.308
batch 63: loss=1.023
batch 64: loss=1.189
batch 65: loss=1.115
batch 66: loss=1.249
batch 67: loss=1.302
batch 68: loss=1.238
batch 69: loss=1.205
batch 70: loss=0.960
batch 71: loss=1.025
batch 72: loss=1.119
batch 73: loss=0.982
batch 74: loss=0.839
batch 75: loss=1.050
batch 76: loss=1.294
batch 77: loss=1.228
batch 78: loss=0.764
batch 79: loss=1.018
batch 80: loss=1.086
batch 81: loss=1.180
batch 82: loss=1.880

Testing on validation set
acc=0.665

Training epoch 39

batch 1: loss=0.874
batch 2: loss=1.252
batch 3: loss=0.919
batch 4: loss=0.979
batch 5: loss=1.025
batch 6: loss=0.815
batch 7: loss=0.810
batch 8: loss=0.845
batch 9: loss=1.002
batch 10: loss=1.330
batch 11: loss=1.042
batch 12: loss=1.462
batch 13: loss=1.239
batch 14: loss=0.888
batch 15: loss=1.007
batch 16: loss=1.089
batch 17: loss=1.191
batch 18: loss=1.275
batch 19: loss=0.864
batch 20: loss=0.946
batch 21: loss=1.108
batch 22: loss=0.825

batch 23: loss=0.964
batch 24: loss=1.090
batch 25: loss=1.160
batch 26: loss=1.606
batch 27: loss=1.024
batch 28: loss=1.289
batch 29: loss=0.932
batch 30: loss=0.897
batch 31: loss=0.933
batch 32: loss=0.939
batch 33: loss=1.039
batch 34: loss=1.530
batch 35: loss=0.984
batch 36: loss=1.133
batch 37: loss=0.943
batch 38: loss=1.148
batch 39: loss=0.816
batch 40: loss=1.084
batch 41: loss=0.760
batch 42: loss=0.935
batch 43: loss=1.078
batch 44: loss=1.107
batch 45: loss=1.034
batch 46: loss=1.076
batch 47: loss=1.028
batch 48: loss=0.868
batch 49: loss=1.060
batch 50: loss=1.048
batch 51: loss=0.943
batch 52: loss=1.177
batch 53: loss=1.115
batch 54: loss=1.054
batch 55: loss=0.932
batch 56: loss=1.234
batch 57: loss=0.931
batch 58: loss=0.695
batch 59: loss=1.056
batch 60: loss=0.928
batch 61: loss=0.827
batch 62: loss=0.958
batch 63: loss=1.108
batch 64: loss=1.091
batch 65: loss=1.192
batch 66: loss=1.289
batch 67: loss=1.207
batch 68: loss=1.003
batch 69: loss=0.920
batch 70: loss=1.060

batch 71: loss=0.847
batch 72: loss=0.984
batch 73: loss=1.103
batch 74: loss=1.306
batch 75: loss=1.031
batch 76: loss=0.837
batch 77: loss=1.080
batch 78: loss=1.104
batch 79: loss=1.551
batch 80: loss=1.030
batch 81: loss=1.193
batch 82: loss=1.137
Testing on validation set
acc=0.667

Training epoch 40

batch 1: loss=1.045
batch 2: loss=1.160
batch 3: loss=0.968
batch 4: loss=1.230
batch 5: loss=1.113
batch 6: loss=1.349
batch 7: loss=1.124
batch 8: loss=0.823
batch 9: loss=1.142
batch 10: loss=0.836
batch 11: loss=0.940
batch 12: loss=0.925
batch 13: loss=0.950
batch 14: loss=0.781
batch 15: loss=1.246
batch 16: loss=0.775
batch 17: loss=1.239
batch 18: loss=0.988
batch 19: loss=1.098
batch 20: loss=1.130
batch 21: loss=1.366
batch 22: loss=0.848
batch 23: loss=1.228
batch 24: loss=0.996
batch 25: loss=1.325
batch 26: loss=0.974
batch 27: loss=0.883
batch 28: loss=0.863
batch 29: loss=0.871
batch 30: loss=1.203
batch 31: loss=0.931
batch 32: loss=1.085
batch 33: loss=1.192

batch 34: loss=0.916
batch 35: loss=1.168
batch 36: loss=1.191
batch 37: loss=0.973
batch 38: loss=0.839
batch 39: loss=0.953
batch 40: loss=1.292
batch 41: loss=1.140
batch 42: loss=1.015
batch 43: loss=1.290
batch 44: loss=1.026
batch 45: loss=1.023
batch 46: loss=0.909
batch 47: loss=1.492
batch 48: loss=1.100
batch 49: loss=1.017
batch 50: loss=1.598
batch 51: loss=1.073
batch 52: loss=1.154
batch 53: loss=0.828
batch 54: loss=0.825
batch 55: loss=1.053
batch 56: loss=1.078
batch 57: loss=1.008
batch 58: loss=1.106
batch 59: loss=1.159
batch 60: loss=1.039
batch 61: loss=1.206
batch 62: loss=1.389
batch 63: loss=1.103
batch 64: loss=1.132
batch 65: loss=1.073
batch 66: loss=0.859
batch 67: loss=0.771
batch 68: loss=1.413
batch 69: loss=1.234
batch 70: loss=1.066
batch 71: loss=1.116
batch 72: loss=0.757
batch 73: loss=0.843
batch 74: loss=0.842
batch 75: loss=1.277
batch 76: loss=1.166
batch 77: loss=1.097
batch 78: loss=0.773
batch 79: loss=1.272
batch 80: loss=0.808
batch 81: loss=1.204

batch 82: loss=1.639
Testing on validation set
acc=0.668

Training epoch 41

batch 1: loss=0.816
batch 2: loss=0.896
batch 3: loss=1.102
batch 4: loss=0.844
batch 5: loss=1.098
batch 6: loss=1.018
batch 7: loss=1.250
batch 8: loss=0.707
batch 9: loss=1.169
batch 10: loss=0.931
batch 11: loss=1.002
batch 12: loss=1.049
batch 13: loss=1.089
batch 14: loss=1.252
batch 15: loss=1.140
batch 16: loss=0.870
batch 17: loss=0.775
batch 18: loss=1.089
batch 19: loss=0.997
batch 20: loss=1.108
batch 21: loss=0.649
batch 22: loss=1.147
batch 23: loss=1.059
batch 24: loss=0.996
batch 25: loss=1.155
batch 26: loss=1.322
batch 27: loss=1.083
batch 28: loss=1.134
batch 29: loss=1.035
batch 30: loss=0.878
batch 31: loss=1.102
batch 32: loss=0.890
batch 33: loss=1.200
batch 34: loss=0.980
batch 35: loss=1.079
batch 36: loss=0.713
batch 37: loss=1.122
batch 38: loss=0.845
batch 39: loss=1.140
batch 40: loss=1.431
batch 41: loss=0.925
batch 42: loss=0.752
batch 43: loss=0.861
batch 44: loss=1.095

```
batch 45: loss=1.120
batch 46: loss=1.256
batch 47: loss=1.454
batch 48: loss=0.820
batch 49: loss=1.036
batch 50: loss=0.902
batch 51: loss=0.934
batch 52: loss=1.218
batch 53: loss=1.283
batch 54: loss=1.043
batch 55: loss=0.976
batch 56: loss=1.067
batch 57: loss=0.819
batch 58: loss=0.744
batch 59: loss=0.971
batch 60: loss=1.192
batch 61: loss=1.253
batch 62: loss=0.920
batch 63: loss=0.912
batch 64: loss=1.074
batch 65: loss=1.016
batch 66: loss=1.364
batch 67: loss=1.406
batch 68: loss=1.185
batch 69: loss=1.106
batch 70: loss=1.201
batch 71: loss=0.908
batch 72: loss=0.866
batch 73: loss=1.149
batch 74: loss=1.013
batch 75: loss=1.405
batch 76: loss=1.211
batch 77: loss=1.192
batch 78: loss=1.168
batch 79: loss=1.033
batch 80: loss=0.957
batch 81: loss=0.979
batch 82: loss=1.284
Testing on validation set
acc=0.672
Training epoch 42
batch 1: loss=0.725
batch 2: loss=0.749
batch 3: loss=1.154
batch 4: loss=0.975
batch 5: loss=1.046
batch 6: loss=1.016
batch 7: loss=1.013
```


batch 8: loss=1.168
batch 9: loss=0.904
batch 10: loss=1.175
batch 11: loss=0.868
batch 12: loss=0.899
batch 13: loss=0.958
batch 14: loss=0.824
batch 15: loss=0.916
batch 16: loss=1.066
batch 17: loss=1.192
batch 18: loss=0.938
batch 19: loss=1.061
batch 20: loss=1.302
batch 21: loss=0.748
batch 22: loss=0.803
batch 23: loss=1.143
batch 24: loss=1.203
batch 25: loss=1.106
batch 26: loss=0.910
batch 27: loss=1.114
batch 28: loss=0.863
batch 29: loss=0.897
batch 30: loss=1.356
batch 31: loss=1.023
batch 32: loss=0.975
batch 33: loss=0.894
batch 34: loss=1.019
batch 35: loss=1.049
batch 36: loss=0.921
batch 37: loss=1.128
batch 38: loss=0.712
batch 39: loss=1.048
batch 40: loss=1.180
batch 41: loss=0.855
batch 42: loss=1.112
batch 43: loss=1.439
batch 44: loss=1.051
batch 45: loss=0.758
batch 46: loss=0.534
batch 47: loss=1.095
batch 48: loss=1.421
batch 49: loss=1.063
batch 50: loss=1.125
batch 51: loss=0.980
batch 52: loss=0.973
batch 53: loss=0.909
batch 54: loss=0.898
batch 55: loss=1.349

```
batch 56: loss=1.201
batch 57: loss=0.817
batch 58: loss=0.900
batch 59: loss=1.286
batch 60: loss=0.958
batch 61: loss=1.241
batch 62: loss=1.052
batch 63: loss=1.354
batch 64: loss=0.775
batch 65: loss=0.858
batch 66: loss=0.765
batch 67: loss=0.828
batch 68: loss=1.423
batch 69: loss=1.362
batch 70: loss=1.177
batch 71: loss=1.040
batch 72: loss=1.148
batch 73: loss=1.122
batch 74: loss=1.081
batch 75: loss=0.593
batch 76: loss=1.092
batch 77: loss=0.892
batch 78: loss=1.071
batch 79: loss=1.175
batch 80: loss=1.322
batch 81: loss=0.958
batch 82: loss=1.351
Testing on validation set
acc=0.678
```

Training epoch 43

```
batch 1: loss=0.942
batch 2: loss=1.040
batch 3: loss=0.927
batch 4: loss=1.083
batch 5: loss=1.002
batch 6: loss=1.118
batch 7: loss=1.080
batch 8: loss=1.251
batch 9: loss=0.935
batch 10: loss=0.927
batch 11: loss=0.970
batch 12: loss=0.999
batch 13: loss=0.890
batch 14: loss=0.981
batch 15: loss=1.084
batch 16: loss=0.844
batch 17: loss=1.109
batch 18: loss=1.232
```

batch 19: loss=1.204
batch 20: loss=0.727
batch 21: loss=0.738
batch 22: loss=0.957
batch 23: loss=0.745
batch 24: loss=0.822
batch 25: loss=1.049
batch 26: loss=0.987
batch 27: loss=0.836
batch 28: loss=0.815
batch 29: loss=1.198
batch 30: loss=1.211
batch 31: loss=1.132
batch 32: loss=0.681
batch 33: loss=1.171
batch 34: loss=1.040
batch 35: loss=1.018
batch 36: loss=0.674
batch 37: loss=1.157
batch 38: loss=0.853
batch 39: loss=1.014
batch 40: loss=0.832
batch 41: loss=0.821
batch 42: loss=1.267
batch 43: loss=1.124
batch 44: loss=0.953
batch 45: loss=1.165
batch 46: loss=1.038
batch 47: loss=0.988
batch 48: loss=0.729
batch 49: loss=1.221
batch 50: loss=0.781
batch 51: loss=0.892
batch 52: loss=1.230
batch 53: loss=0.856
batch 54: loss=0.872
batch 55: loss=1.187
batch 56: loss=0.541
batch 57: loss=0.920
batch 58: loss=0.872
batch 59: loss=1.169
batch 60: loss=0.885
batch 61: loss=1.076
batch 62: loss=0.873
batch 63: loss=1.371
batch 64: loss=0.976
batch 65: loss=1.174
batch 66: loss=0.864

batch 67: loss=1.197
batch 68: loss=1.263
batch 69: loss=1.034
batch 70: loss=0.783
batch 71: loss=0.671
batch 72: loss=0.918
batch 73: loss=0.976
batch 74: loss=0.730
batch 75: loss=1.042
batch 76: loss=0.878
batch 77: loss=1.007
batch 78: loss=0.941
batch 79: loss=1.053
batch 80: loss=0.767
batch 81: loss=0.902
batch 82: loss=1.304

Testing on validation set
acc=0.692

Training epoch 44

batch 1: loss=1.078
batch 2: loss=0.839
batch 3: loss=1.014
batch 4: loss=1.067
batch 5: loss=0.636
batch 6: loss=0.924
batch 7: loss=1.059
batch 8: loss=0.764
batch 9: loss=0.781
batch 10: loss=1.343
batch 11: loss=0.838
batch 12: loss=1.347
batch 13: loss=1.505
batch 14: loss=0.848
batch 15: loss=1.052
batch 16: loss=0.857
batch 17: loss=0.939
batch 18: loss=0.995
batch 19: loss=1.136
batch 20: loss=0.788
batch 21: loss=0.783
batch 22: loss=1.244
batch 23: loss=1.057
batch 24: loss=1.272
batch 25: loss=1.001
batch 26: loss=1.084
batch 27: loss=0.858
batch 28: loss=0.957
batch 29: loss=1.104

batch 30: loss=1.026
batch 31: loss=0.902
batch 32: loss=0.893
batch 33: loss=1.124
batch 34: loss=1.099
batch 35: loss=1.082
batch 36: loss=1.134
batch 37: loss=0.601
batch 38: loss=0.983
batch 39: loss=1.074
batch 40: loss=1.191
batch 41: loss=1.048
batch 42: loss=0.872
batch 43: loss=0.941
batch 44: loss=0.843
batch 45: loss=0.972
batch 46: loss=0.835
batch 47: loss=0.744
batch 48: loss=1.021
batch 49: loss=0.627
batch 50: loss=1.091
batch 51: loss=0.728
batch 52: loss=1.111
batch 53: loss=0.912
batch 54: loss=0.947
batch 55: loss=0.975
batch 56: loss=1.056
batch 57: loss=0.741
batch 58: loss=0.892
batch 59: loss=0.855
batch 60: loss=0.951
batch 61: loss=0.865
batch 62: loss=1.113
batch 63: loss=0.741
batch 64: loss=0.792
batch 65: loss=1.457
batch 66: loss=1.054
batch 67: loss=0.963
batch 68: loss=0.841
batch 69: loss=1.439
batch 70: loss=1.196
batch 71: loss=0.905
batch 72: loss=0.898
batch 73: loss=0.825
batch 74: loss=1.123
batch 75: loss=0.599
batch 76: loss=1.178
batch 77: loss=0.520

batch 78: loss=0.841
batch 79: loss=0.658
batch 80: loss=1.347
batch 81: loss=0.978
batch 82: loss=1.862
Testing on validation set
acc=0.674

Training epoch 45

batch 1: loss=0.875
batch 2: loss=0.734
batch 3: loss=0.895
batch 4: loss=0.987
batch 5: loss=1.301
batch 6: loss=0.966
batch 7: loss=0.998
batch 8: loss=0.775
batch 9: loss=0.822
batch 10: loss=1.158
batch 11: loss=1.004
batch 12: loss=0.720
batch 13: loss=0.921
batch 14: loss=1.219
batch 15: loss=0.893
batch 16: loss=0.972
batch 17: loss=0.865
batch 18: loss=0.883
batch 19: loss=1.265
batch 20: loss=0.876
batch 21: loss=0.881
batch 22: loss=0.900
batch 23: loss=0.811
batch 24: loss=0.908
batch 25: loss=1.006
batch 26: loss=0.787
batch 27: loss=0.688
batch 28: loss=0.909
batch 29: loss=0.986
batch 30: loss=0.882
batch 31: loss=1.027
batch 32: loss=0.802
batch 33: loss=0.897
batch 34: loss=1.288
batch 35: loss=0.799
batch 36: loss=0.565
batch 37: loss=0.990
batch 38: loss=0.837
batch 39: loss=0.971
batch 40: loss=1.042

```
batch 41: loss=0.995
batch 42: loss=0.939
batch 43: loss=0.994
batch 44: loss=0.887
batch 45: loss=1.086
batch 46: loss=1.110
batch 47: loss=1.251
batch 48: loss=1.305
batch 49: loss=0.922
batch 50: loss=1.136
batch 51: loss=0.987
batch 52: loss=0.938
batch 53: loss=0.868
batch 54: loss=0.978
batch 55: loss=0.933
batch 56: loss=0.794
batch 57: loss=0.991
batch 58: loss=0.901
batch 59: loss=1.207
batch 60: loss=1.088
batch 61: loss=1.050
batch 62: loss=0.827
batch 63: loss=0.825
batch 64: loss=1.234
batch 65: loss=1.003
batch 66: loss=0.676
batch 67: loss=0.990
batch 68: loss=0.848
batch 69: loss=1.126
batch 70: loss=1.158
batch 71: loss=1.131
batch 72: loss=1.050
batch 73: loss=1.020
batch 74: loss=1.236
batch 75: loss=0.964
batch 76: loss=1.170
batch 77: loss=0.929
batch 78: loss=0.827
batch 79: loss=1.088
batch 80: loss=0.924
batch 81: loss=0.871
batch 82: loss=0.967
Testing on validation set
acc=0.684
Training epoch 46
batch 1: loss=0.571
batch 2: loss=0.876
batch 3: loss=0.622
```

batch 4: loss=0.748
batch 5: loss=0.807
batch 6: loss=0.695
batch 7: loss=1.187
batch 8: loss=0.567
batch 9: loss=1.008
batch 10: loss=0.881
batch 11: loss=0.767
batch 12: loss=0.813
batch 13: loss=0.840
batch 14: loss=0.882
batch 15: loss=1.042
batch 16: loss=1.399
batch 17: loss=1.015
batch 18: loss=0.934
batch 19: loss=1.086
batch 20: loss=1.140
batch 21: loss=1.013
batch 22: loss=1.022
batch 23: loss=0.816
batch 24: loss=0.943
batch 25: loss=1.148
batch 26: loss=0.772
batch 27: loss=0.827
batch 28: loss=0.819
batch 29: loss=0.732
batch 30: loss=1.143
batch 31: loss=1.231
batch 32: loss=1.096
batch 33: loss=0.968
batch 34: loss=1.012
batch 35: loss=0.894
batch 36: loss=0.869
batch 37: loss=1.247
batch 38: loss=0.994
batch 39: loss=0.589
batch 40: loss=0.909
batch 41: loss=0.809
batch 42: loss=0.672
batch 43: loss=1.282
batch 44: loss=1.264
batch 45: loss=0.782
batch 46: loss=1.106
batch 47: loss=0.889
batch 48: loss=0.936
batch 49: loss=0.907
batch 50: loss=0.784
batch 51: loss=0.779


```
batch 52: loss=0.912
batch 53: loss=1.197
batch 54: loss=1.078
batch 55: loss=1.253
batch 56: loss=1.134
batch 57: loss=0.929
batch 58: loss=1.068
batch 59: loss=1.019
batch 60: loss=1.294
batch 61: loss=0.818
batch 62: loss=0.731
batch 63: loss=0.783
batch 64: loss=0.915
batch 65: loss=0.857
batch 66: loss=0.793
batch 67: loss=1.162
batch 68: loss=1.421
batch 69: loss=0.950
batch 70: loss=0.603
batch 71: loss=0.974
batch 72: loss=1.122
batch 73: loss=1.132
batch 74: loss=0.728
batch 75: loss=0.904
batch 76: loss=1.377
batch 77: loss=0.894
batch 78: loss=0.923
batch 79: loss=0.980
batch 80: loss=0.642
batch 81: loss=0.825
batch 82: loss=0.848
Testing on validation set
acc=0.670
```

Training epoch 47

```
batch 1: loss=0.873
batch 2: loss=0.697
batch 3: loss=0.919
batch 4: loss=0.909
batch 5: loss=1.088
batch 6: loss=0.837
batch 7: loss=1.270
batch 8: loss=0.891
batch 9: loss=1.021
batch 10: loss=1.111
batch 11: loss=1.152
batch 12: loss=0.890
batch 13: loss=0.762
batch 14: loss=1.020
```

batch 15: loss=0.676
batch 16: loss=0.980
batch 17: loss=0.965
batch 18: loss=0.798
batch 19: loss=0.829
batch 20: loss=0.832
batch 21: loss=0.671
batch 22: loss=0.675
batch 23: loss=0.706
batch 24: loss=1.096
batch 25: loss=0.780
batch 26: loss=0.768
batch 27: loss=0.669
batch 28: loss=0.920
batch 29: loss=0.973
batch 30: loss=0.711
batch 31: loss=0.699
batch 32: loss=0.840
batch 33: loss=0.930
batch 34: loss=0.652
batch 35: loss=0.938
batch 36: loss=0.921
batch 37: loss=0.959
batch 38: loss=0.678
batch 39: loss=1.015
batch 40: loss=1.032
batch 41: loss=0.851
batch 42: loss=0.904
batch 43: loss=0.983
batch 44: loss=1.080
batch 45: loss=0.723
batch 46: loss=0.881
batch 47: loss=0.823
batch 48: loss=0.631
batch 49: loss=0.979
batch 50: loss=1.188
batch 51: loss=0.755
batch 52: loss=0.887
batch 53: loss=0.924
batch 54: loss=0.924
batch 55: loss=0.952
batch 56: loss=1.010
batch 57: loss=0.843
batch 58: loss=0.510
batch 59: loss=0.671
batch 60: loss=1.066
batch 61: loss=0.718
batch 62: loss=1.576

```
batch 63: loss=1.133
batch 64: loss=0.908
batch 65: loss=0.889
batch 66: loss=1.209
batch 67: loss=0.649
batch 68: loss=1.204
batch 69: loss=0.798
batch 70: loss=0.869
batch 71: loss=0.913
batch 72: loss=1.234
batch 73: loss=1.075
batch 74: loss=0.932
batch 75: loss=0.898
batch 76: loss=0.699
batch 77: loss=0.916
batch 78: loss=1.076
batch 79: loss=1.125
batch 80: loss=0.946
batch 81: loss=1.364
batch 82: loss=1.388
Testing on validation set
acc=0.688
```

Training epoch 48

```
batch 1: loss=0.733
batch 2: loss=1.017
batch 3: loss=0.769
batch 4: loss=0.805
batch 5: loss=0.897
batch 6: loss=1.365
batch 7: loss=0.876
batch 8: loss=1.045
batch 9: loss=0.877
batch 10: loss=1.073
batch 11: loss=0.836
batch 12: loss=1.068
batch 13: loss=0.868
batch 14: loss=0.722
batch 15: loss=1.008
batch 16: loss=0.865
batch 17: loss=1.171
batch 18: loss=0.993
batch 19: loss=0.716
batch 20: loss=0.885
batch 21: loss=0.555
batch 22: loss=0.644
batch 23: loss=1.130
batch 24: loss=0.625
batch 25: loss=1.045
```

batch 26: loss=0.853
batch 27: loss=0.940
batch 28: loss=0.572
batch 29: loss=1.060
batch 30: loss=1.083
batch 31: loss=0.819
batch 32: loss=0.961
batch 33: loss=0.760
batch 34: loss=0.824
batch 35: loss=0.794
batch 36: loss=0.953
batch 37: loss=1.056
batch 38: loss=0.844
batch 39: loss=0.862
batch 40: loss=1.149
batch 41: loss=1.589
batch 42: loss=0.716
batch 43: loss=0.889
batch 44: loss=0.726
batch 45: loss=0.752
batch 46: loss=0.716
batch 47: loss=1.080
batch 48: loss=0.881
batch 49: loss=0.774
batch 50: loss=0.805
batch 51: loss=0.838
batch 52: loss=1.156
batch 53: loss=1.096
batch 54: loss=0.586
batch 55: loss=1.296
batch 56: loss=0.619
batch 57: loss=0.988
batch 58: loss=1.154
batch 59: loss=0.936
batch 60: loss=0.737
batch 61: loss=0.677
batch 62: loss=1.191
batch 63: loss=1.229
batch 64: loss=0.942
batch 65: loss=0.761
batch 66: loss=0.911
batch 67: loss=0.727
batch 68: loss=0.940
batch 69: loss=0.763
batch 70: loss=0.964
batch 71: loss=1.262
batch 72: loss=1.128
batch 73: loss=1.040

batch 74: loss=1.000
batch 75: loss=0.909
batch 76: loss=0.842
batch 77: loss=1.058
batch 78: loss=1.136
batch 79: loss=1.160
batch 80: loss=1.126
batch 81: loss=1.430
batch 82: loss=1.808

Testing on validation set
acc=0.660

Training epoch 49

batch 1: loss=0.848
batch 2: loss=1.036
batch 3: loss=1.047
batch 4: loss=0.923
batch 5: loss=0.649
batch 6: loss=0.699
batch 7: loss=0.743
batch 8: loss=1.040
batch 9: loss=0.704
batch 10: loss=0.512
batch 11: loss=0.958
batch 12: loss=0.762
batch 13: loss=0.834
batch 14: loss=0.728
batch 15: loss=0.912
batch 16: loss=0.806
batch 17: loss=0.953
batch 18: loss=1.069
batch 19: loss=1.357
batch 20: loss=0.788
batch 21: loss=0.911
batch 22: loss=1.059
batch 23: loss=0.797
batch 24: loss=0.849
batch 25: loss=0.738
batch 26: loss=0.810
batch 27: loss=1.199
batch 28: loss=0.817
batch 29: loss=0.955
batch 30: loss=1.033
batch 31: loss=1.108
batch 32: loss=0.935
batch 33: loss=0.833
batch 34: loss=0.708
batch 35: loss=1.176
batch 36: loss=0.796

batch 37: loss=0.777
batch 38: loss=0.623
batch 39: loss=1.002
batch 40: loss=0.612
batch 41: loss=0.913
batch 42: loss=0.896
batch 43: loss=1.065
batch 44: loss=0.907
batch 45: loss=0.934
batch 46: loss=0.994
batch 47: loss=1.065
batch 48: loss=0.898
batch 49: loss=0.830
batch 50: loss=0.912
batch 51: loss=0.702
batch 52: loss=0.817
batch 53: loss=1.044
batch 54: loss=0.913
batch 55: loss=0.765
batch 56: loss=0.757
batch 57: loss=1.020
batch 58: loss=0.822
batch 59: loss=0.966
batch 60: loss=0.865
batch 61: loss=0.797
batch 62: loss=0.874
batch 63: loss=1.077
batch 64: loss=0.717
batch 65: loss=1.194
batch 66: loss=1.025
batch 67: loss=1.235
batch 68: loss=1.114
batch 69: loss=0.829
batch 70: loss=0.986
batch 71: loss=1.020
batch 72: loss=0.904
batch 73: loss=0.881
batch 74: loss=0.575
batch 75: loss=1.028
batch 76: loss=1.139
batch 77: loss=0.948
batch 78: loss=0.960
batch 79: loss=1.138
batch 80: loss=0.988
batch 81: loss=0.987
batch 82: loss=0.764
Testing on validation set
acc=0.677

Training epoch 50

batch	1:	loss=0.710
batch	2:	loss=0.692
batch	3:	loss=0.694
batch	4:	loss=0.859
batch	5:	loss=0.959
batch	6:	loss=0.890
batch	7:	loss=0.265
batch	8:	loss=0.796
batch	9:	loss=0.904
batch	10:	loss=0.896
batch	11:	loss=1.050
batch	12:	loss=0.611
batch	13:	loss=0.811
batch	14:	loss=0.773
batch	15:	loss=0.572
batch	16:	loss=0.642
batch	17:	loss=0.779
batch	18:	loss=0.528
batch	19:	loss=1.112
batch	20:	loss=0.691
batch	21:	loss=0.950
batch	22:	loss=0.936
batch	23:	loss=0.714
batch	24:	loss=0.709
batch	25:	loss=1.033
batch	26:	loss=1.119
batch	27:	loss=0.851
batch	28:	loss=0.834
batch	29:	loss=1.055
batch	30:	loss=1.058
batch	31:	loss=0.770
batch	32:	loss=1.112
batch	33:	loss=0.851
batch	34:	loss=0.814
batch	35:	loss=1.196
batch	36:	loss=0.903
batch	37:	loss=0.705
batch	38:	loss=0.607
batch	39:	loss=0.663
batch	40:	loss=0.491
batch	41:	loss=0.958
batch	42:	loss=0.757
batch	43:	loss=0.583
batch	44:	loss=0.870
batch	45:	loss=0.902
batch	46:	loss=0.786
batch	47:	loss=1.136

```
batch 48: loss=0.577
batch 49: loss=0.961
batch 50: loss=0.895
batch 51: loss=1.103
batch 52: loss=0.960
batch 53: loss=0.741
batch 54: loss=0.799
batch 55: loss=0.914
batch 56: loss=0.644
batch 57: loss=0.807
batch 58: loss=0.840
batch 59: loss=1.181
batch 60: loss=0.972
batch 61: loss=0.972
batch 62: loss=0.748
batch 63: loss=0.731
batch 64: loss=0.861
batch 65: loss=0.649
batch 66: loss=0.841
batch 67: loss=0.933
batch 68: loss=0.889
batch 69: loss=0.762
batch 70: loss=0.760
batch 71: loss=1.188
batch 72: loss=0.844
batch 73: loss=1.201
batch 74: loss=1.022
batch 75: loss=0.721
batch 76: loss=0.779
batch 77: loss=0.785
batch 78: loss=0.772
batch 79: loss=0.866
batch 80: loss=1.085
batch 81: loss=1.116
batch 82: loss=0.791
Testing on validation set
acc=0.709
```

Training epoch 51

```
batch 1: loss=0.778
batch 2: loss=0.480
batch 3: loss=0.936
batch 4: loss=0.463
batch 5: loss=0.759
batch 6: loss=0.741
batch 7: loss=0.807
batch 8: loss=0.775
batch 9: loss=0.820
batch 10: loss=1.057
```


batch 11: loss=0.625
batch 12: loss=0.760
batch 13: loss=0.661
batch 14: loss=0.620
batch 15: loss=1.082
batch 16: loss=0.677
batch 17: loss=0.576
batch 18: loss=1.150
batch 19: loss=0.500
batch 20: loss=1.127
batch 21: loss=0.912
batch 22: loss=0.834
batch 23: loss=0.674
batch 24: loss=0.489
batch 25: loss=0.647
batch 26: loss=0.837
batch 27: loss=1.032
batch 28: loss=0.942
batch 29: loss=0.712
batch 30: loss=0.537
batch 31: loss=0.819
batch 32: loss=0.787
batch 33: loss=0.631
batch 34: loss=0.697
batch 35: loss=0.831
batch 36: loss=0.982
batch 37: loss=0.553
batch 38: loss=0.717
batch 39: loss=0.920
batch 40: loss=0.928
batch 41: loss=0.898
batch 42: loss=1.090
batch 43: loss=0.775
batch 44: loss=1.044
batch 45: loss=0.879
batch 46: loss=0.970
batch 47: loss=0.790
batch 48: loss=0.984
batch 49: loss=1.115
batch 50: loss=1.004
batch 51: loss=0.804
batch 52: loss=0.737
batch 53: loss=0.789
batch 54: loss=0.825
batch 55: loss=0.822
batch 56: loss=1.035
batch 57: loss=0.763
batch 58: loss=0.804

```
batch 59: loss=0.805
batch 60: loss=1.126
batch 61: loss=0.881
batch 62: loss=0.604
batch 63: loss=1.155
batch 64: loss=0.888
batch 65: loss=0.783
batch 66: loss=0.810
batch 67: loss=0.932
batch 68: loss=0.641
batch 69: loss=1.518
batch 70: loss=0.934
batch 71: loss=0.751
batch 72: loss=0.710
batch 73: loss=1.043
batch 74: loss=1.252
batch 75: loss=0.799
batch 76: loss=0.649
batch 77: loss=1.194
batch 78: loss=0.597
batch 79: loss=0.680
batch 80: loss=0.804
batch 81: loss=1.070
batch 82: loss=1.142
Testing on validation set
acc=0.672
```

Training epoch 52

```
batch 1: loss=0.853
batch 2: loss=0.693
batch 3: loss=0.907
batch 4: loss=1.085
batch 5: loss=0.854
batch 6: loss=0.474
batch 7: loss=0.773
batch 8: loss=0.640
batch 9: loss=0.590
batch 10: loss=0.939
batch 11: loss=0.945
batch 12: loss=0.943
batch 13: loss=0.922
batch 14: loss=0.748
batch 15: loss=0.810
batch 16: loss=0.879
batch 17: loss=0.795
batch 18: loss=1.225
batch 19: loss=0.810
batch 20: loss=0.772
batch 21: loss=0.763
```

batch 22: loss=0.750
batch 23: loss=0.569
batch 24: loss=1.101
batch 25: loss=0.590
batch 26: loss=0.853
batch 27: loss=0.577
batch 28: loss=0.685
batch 29: loss=0.674
batch 30: loss=1.013
batch 31: loss=0.783
batch 32: loss=0.779
batch 33: loss=0.928
batch 34: loss=0.781
batch 35: loss=0.861
batch 36: loss=0.740
batch 37: loss=0.641
batch 38: loss=0.925
batch 39: loss=0.936
batch 40: loss=0.853
batch 41: loss=1.086
batch 42: loss=1.024
batch 43: loss=1.196
batch 44: loss=0.626
batch 45: loss=0.843
batch 46: loss=0.524
batch 47: loss=0.594
batch 48: loss=0.845
batch 49: loss=1.168
batch 50: loss=0.910
batch 51: loss=0.847
batch 52: loss=0.899
batch 53: loss=0.944
batch 54: loss=1.239
batch 55: loss=1.295
batch 56: loss=0.769
batch 57: loss=0.840
batch 58: loss=0.927
batch 59: loss=0.948
batch 60: loss=1.004
batch 61: loss=0.522
batch 62: loss=0.695
batch 63: loss=0.999
batch 64: loss=0.883
batch 65: loss=0.885
batch 66: loss=1.203
batch 67: loss=0.871
batch 68: loss=0.944
batch 69: loss=0.837

```
batch 70: loss=1.006
batch 71: loss=1.121
batch 72: loss=0.924
batch 73: loss=0.660
batch 74: loss=0.699
batch 75: loss=0.773
batch 76: loss=0.842
batch 77: loss=0.708
batch 78: loss=0.878
batch 79: loss=0.661
batch 80: loss=0.796
batch 81: loss=1.109
batch 82: loss=1.149
Testing on validation set
acc=0.695
```

Training epoch 53

```
batch 1: loss=0.557
batch 2: loss=1.227
batch 3: loss=0.641
batch 4: loss=1.151
batch 5: loss=0.955
batch 6: loss=1.042
batch 7: loss=0.851
batch 8: loss=0.845
batch 9: loss=1.014
batch 10: loss=0.973
batch 11: loss=0.786
batch 12: loss=0.683
batch 13: loss=0.835
batch 14: loss=0.726
batch 15: loss=0.707
batch 16: loss=0.759
batch 17: loss=0.733
batch 18: loss=0.752
batch 19: loss=0.708
batch 20: loss=0.965
batch 21: loss=0.908
batch 22: loss=0.949
batch 23: loss=0.744
batch 24: loss=0.676
batch 25: loss=0.744
batch 26: loss=0.774
batch 27: loss=0.753
batch 28: loss=0.817
batch 29: loss=0.593
batch 30: loss=0.696
batch 31: loss=1.206
batch 32: loss=0.719
```

batch 33: loss=1.065
batch 34: loss=0.701
batch 35: loss=0.984
batch 36: loss=0.764
batch 37: loss=1.014
batch 38: loss=0.808
batch 39: loss=0.803
batch 40: loss=0.636
batch 41: loss=0.970
batch 42: loss=0.701
batch 43: loss=1.193
batch 44: loss=0.470
batch 45: loss=1.108
batch 46: loss=0.726
batch 47: loss=1.054
batch 48: loss=0.722
batch 49: loss=0.736
batch 50: loss=0.978
batch 51: loss=1.068
batch 52: loss=0.716
batch 53: loss=0.815
batch 54: loss=1.199
batch 55: loss=1.074
batch 56: loss=0.753
batch 57: loss=0.955
batch 58: loss=0.872
batch 59: loss=0.912
batch 60: loss=1.097
batch 61: loss=0.701
batch 62: loss=0.800
batch 63: loss=0.873
batch 64: loss=0.739
batch 65: loss=0.742
batch 66: loss=0.750
batch 67: loss=0.571
batch 68: loss=0.796
batch 69: loss=0.904
batch 70: loss=1.108
batch 71: loss=0.824
batch 72: loss=0.895
batch 73: loss=0.698
batch 74: loss=0.984
batch 75: loss=0.849
batch 76: loss=0.630
batch 77: loss=0.920
batch 78: loss=0.749
batch 79: loss=0.784
batch 80: loss=0.752

batch 81: loss=0.816
batch 82: loss=0.648
Testing on validation set
acc=0.685

Training epoch 54

batch 1: loss=0.860
batch 2: loss=0.670
batch 3: loss=0.774
batch 4: loss=0.833
batch 5: loss=0.783
batch 6: loss=0.801
batch 7: loss=0.582
batch 8: loss=0.624
batch 9: loss=0.511
batch 10: loss=0.664
batch 11: loss=0.754
batch 12: loss=0.478
batch 13: loss=0.653
batch 14: loss=0.839
batch 15: loss=0.911
batch 16: loss=0.821
batch 17: loss=0.734
batch 18: loss=0.727
batch 19: loss=0.909
batch 20: loss=0.534
batch 21: loss=0.589
batch 22: loss=0.981
batch 23: loss=0.838
batch 24: loss=0.767
batch 25: loss=0.623
batch 26: loss=0.752
batch 27: loss=0.910
batch 28: loss=0.553
batch 29: loss=0.819
batch 30: loss=0.683
batch 31: loss=0.830
batch 32: loss=0.670
batch 33: loss=0.384
batch 34: loss=1.056
batch 35: loss=0.672
batch 36: loss=0.691
batch 37: loss=1.060
batch 38: loss=0.726
batch 39: loss=0.791
batch 40: loss=1.139
batch 41: loss=1.002
batch 42: loss=0.987
batch 43: loss=0.916

batch 44: loss=0.877
batch 45: loss=0.587
batch 46: loss=1.015
batch 47: loss=0.681
batch 48: loss=0.698
batch 49: loss=0.750
batch 50: loss=1.085
batch 51: loss=0.786
batch 52: loss=0.959
batch 53: loss=0.645
batch 54: loss=0.754
batch 55: loss=0.895
batch 56: loss=0.729
batch 57: loss=0.757
batch 58: loss=0.879
batch 59: loss=0.904
batch 60: loss=0.761
batch 61: loss=0.788
batch 62: loss=0.846
batch 63: loss=1.155
batch 64: loss=0.814
batch 65: loss=0.536
batch 66: loss=0.934
batch 67: loss=0.688
batch 68: loss=0.697
batch 69: loss=0.864
batch 70: loss=0.829
batch 71: loss=1.016
batch 72: loss=0.892
batch 73: loss=0.625
batch 74: loss=0.853
batch 75: loss=1.014
batch 76: loss=0.665
batch 77: loss=0.822
batch 78: loss=0.630
batch 79: loss=0.517
batch 80: loss=0.883
batch 81: loss=0.690
batch 82: loss=0.918

Testing on validation set
acc=0.682

Training epoch 55

batch 1: loss=0.699
batch 2: loss=0.732
batch 3: loss=0.616
batch 4: loss=0.815
batch 5: loss=0.868
batch 6: loss=0.682

batch 7: loss=0.819
batch 8: loss=0.759
batch 9: loss=0.933
batch 10: loss=0.745
batch 11: loss=0.849
batch 12: loss=0.889
batch 13: loss=0.702
batch 14: loss=0.827
batch 15: loss=0.831
batch 16: loss=0.561
batch 17: loss=1.175
batch 18: loss=0.737
batch 19: loss=0.651
batch 20: loss=0.713
batch 21: loss=0.904
batch 22: loss=0.806
batch 23: loss=0.726
batch 24: loss=0.589
batch 25: loss=0.716
batch 26: loss=0.882
batch 27: loss=0.531
batch 28: loss=0.843
batch 29: loss=0.678
batch 30: loss=1.091
batch 31: loss=0.489
batch 32: loss=0.843
batch 33: loss=0.711
batch 34: loss=0.961
batch 35: loss=0.676
batch 36: loss=0.554
batch 37: loss=0.806
batch 38: loss=0.740
batch 39: loss=0.707
batch 40: loss=0.649
batch 41: loss=0.545
batch 42: loss=0.895
batch 43: loss=0.634
batch 44: loss=0.687
batch 45: loss=1.036
batch 46: loss=1.006
batch 47: loss=0.831
batch 48: loss=0.945
batch 49: loss=0.717
batch 50: loss=0.830
batch 51: loss=0.807
batch 52: loss=0.864
batch 53: loss=0.830
batch 54: loss=0.894


```
batch 55: loss=0.709
batch 56: loss=0.728
batch 57: loss=0.776
batch 58: loss=0.819
batch 59: loss=0.937
batch 60: loss=0.731
batch 61: loss=0.809
batch 62: loss=0.933
batch 63: loss=0.831
batch 64: loss=0.641
batch 65: loss=0.602
batch 66: loss=0.628
batch 67: loss=0.961
batch 68: loss=0.549
batch 69: loss=0.668
batch 70: loss=0.893
batch 71: loss=0.710
batch 72: loss=1.064
batch 73: loss=0.955
batch 74: loss=0.912
batch 75: loss=0.937
batch 76: loss=0.748
batch 77: loss=0.930
batch 78: loss=0.697
batch 79: loss=0.794
batch 80: loss=1.035
batch 81: loss=0.893
batch 82: loss=0.842
Testing on validation set
acc=0.682
```

Training epoch 56

```
batch 1: loss=1.066
batch 2: loss=0.612
batch 3: loss=0.578
batch 4: loss=0.885
batch 5: loss=0.688
batch 6: loss=0.697
batch 7: loss=0.980
batch 8: loss=0.811
batch 9: loss=0.704
batch 10: loss=0.707
batch 11: loss=0.768
batch 12: loss=0.823
batch 13: loss=0.793
batch 14: loss=0.953
batch 15: loss=0.742
batch 16: loss=0.447
batch 17: loss=0.864
```

batch 18: loss=0.887
batch 19: loss=0.942
batch 20: loss=1.073
batch 21: loss=0.570
batch 22: loss=0.824
batch 23: loss=1.105
batch 24: loss=0.608
batch 25: loss=0.722
batch 26: loss=0.437
batch 27: loss=0.843
batch 28: loss=0.488
batch 29: loss=0.756
batch 30: loss=1.036
batch 31: loss=1.135
batch 32: loss=0.781
batch 33: loss=0.712
batch 34: loss=0.968
batch 35: loss=0.891
batch 36: loss=0.818
batch 37: loss=0.984
batch 38: loss=0.648
batch 39: loss=0.629
batch 40: loss=1.403
batch 41: loss=0.574
batch 42: loss=1.024
batch 43: loss=0.677
batch 44: loss=0.747
batch 45: loss=0.794
batch 46: loss=0.632
batch 47: loss=0.649
batch 48: loss=0.522
batch 49: loss=0.990
batch 50: loss=0.787
batch 51: loss=0.707
batch 52: loss=0.587
batch 53: loss=1.283
batch 54: loss=0.601
batch 55: loss=0.617
batch 56: loss=0.787
batch 57: loss=0.918
batch 58: loss=0.726
batch 59: loss=0.482
batch 60: loss=0.968
batch 61: loss=0.791
batch 62: loss=0.766
batch 63: loss=1.004
batch 64: loss=0.740
batch 65: loss=0.427

```
batch 66: loss=1.010
batch 67: loss=0.542
batch 68: loss=0.751
batch 69: loss=0.663
batch 70: loss=0.880
batch 71: loss=0.606
batch 72: loss=0.511
batch 73: loss=1.006
batch 74: loss=0.715
batch 75: loss=0.815
batch 76: loss=0.720
batch 77: loss=0.727
batch 78: loss=0.989
batch 79: loss=0.823
batch 80: loss=0.848
batch 81: loss=0.804
batch 82: loss=1.538
Testing on validation set
acc=0.674
```

Training epoch 57

```
batch 1: loss=1.035
batch 2: loss=0.727
batch 3: loss=0.650
batch 4: loss=0.816
batch 5: loss=0.977
batch 6: loss=0.922
batch 7: loss=0.808
batch 8: loss=0.907
batch 9: loss=0.961
batch 10: loss=0.717
batch 11: loss=0.664
batch 12: loss=1.002
batch 13: loss=0.764
batch 14: loss=1.035
batch 15: loss=0.746
batch 16: loss=0.582
batch 17: loss=0.618
batch 18: loss=0.856
batch 19: loss=0.700
batch 20: loss=0.560
batch 21: loss=0.904
batch 22: loss=0.507
batch 23: loss=0.648
batch 24: loss=1.204
batch 25: loss=0.945
batch 26: loss=0.495
batch 27: loss=0.635
batch 28: loss=0.348
```

batch 29: loss=0.606
batch 30: loss=0.754
batch 31: loss=0.895
batch 32: loss=0.705
batch 33: loss=0.709
batch 34: loss=1.015
batch 35: loss=0.971
batch 36: loss=0.813
batch 37: loss=0.804
batch 38: loss=0.700
batch 39: loss=0.780
batch 40: loss=0.500
batch 41: loss=0.649
batch 42: loss=0.892
batch 43: loss=0.941
batch 44: loss=0.631
batch 45: loss=0.792
batch 46: loss=0.677
batch 47: loss=0.503
batch 48: loss=0.794
batch 49: loss=0.703
batch 50: loss=0.602
batch 51: loss=0.830
batch 52: loss=0.751
batch 53: loss=0.976
batch 54: loss=0.590
batch 55: loss=0.696
batch 56: loss=0.884
batch 57: loss=0.598
batch 58: loss=1.284
batch 59: loss=0.471
batch 60: loss=0.684
batch 61: loss=1.290
batch 62: loss=0.988
batch 63: loss=0.928
batch 64: loss=0.628
batch 65: loss=0.802
batch 66: loss=1.042
batch 67: loss=0.399
batch 68: loss=0.966
batch 69: loss=0.675
batch 70: loss=0.723
batch 71: loss=1.232
batch 72: loss=0.559
batch 73: loss=0.866
batch 74: loss=0.684
batch 75: loss=0.558
batch 76: loss=0.737

batch 77: loss=0.980
batch 78: loss=1.000
batch 79: loss=0.876
batch 80: loss=0.968
batch 81: loss=0.793
batch 82: loss=1.559
Testing on validation set
acc=0.700

Training epoch 58

batch 1: loss=0.846
batch 2: loss=0.816
batch 3: loss=0.621
batch 4: loss=0.697
batch 5: loss=0.546
batch 6: loss=0.682
batch 7: loss=0.920
batch 8: loss=0.607
batch 9: loss=0.689
batch 10: loss=0.558
batch 11: loss=0.655
batch 12: loss=0.786
batch 13: loss=0.701
batch 14: loss=0.562
batch 15: loss=0.427
batch 16: loss=0.784
batch 17: loss=0.739
batch 18: loss=0.719
batch 19: loss=0.762
batch 20: loss=0.848
batch 21: loss=0.638
batch 22: loss=0.571
batch 23: loss=1.019
batch 24: loss=0.854
batch 25: loss=0.860
batch 26: loss=1.172
batch 27: loss=0.718
batch 28: loss=0.662
batch 29: loss=0.918
batch 30: loss=0.724
batch 31: loss=0.684
batch 32: loss=0.834
batch 33: loss=0.749
batch 34: loss=0.801
batch 35: loss=1.146
batch 36: loss=0.662
batch 37: loss=0.738
batch 38: loss=0.974
batch 39: loss=0.379

```
batch 40: loss=1.136
batch 41: loss=0.707
batch 42: loss=0.765
batch 43: loss=0.786
batch 44: loss=0.736
batch 45: loss=0.615
batch 46: loss=0.705
batch 47: loss=0.617
batch 48: loss=0.612
batch 49: loss=1.034
batch 50: loss=0.863
batch 51: loss=1.006
batch 52: loss=0.942
batch 53: loss=0.815
batch 54: loss=0.683
batch 55: loss=0.916
batch 56: loss=0.747
batch 57: loss=0.932
batch 58: loss=0.848
batch 59: loss=0.813
batch 60: loss=0.540
batch 61: loss=0.781
batch 62: loss=0.874
batch 63: loss=0.827
batch 64: loss=1.115
batch 65: loss=0.630
batch 66: loss=0.883
batch 67: loss=0.740
batch 68: loss=0.843
batch 69: loss=1.060
batch 70: loss=0.601
batch 71: loss=0.608
batch 72: loss=0.797
batch 73: loss=0.820
batch 74: loss=0.829
batch 75: loss=0.876
batch 76: loss=0.615
batch 77: loss=1.011
batch 78: loss=0.961
batch 79: loss=0.493
batch 80: loss=0.846
batch 81: loss=0.813
batch 82: loss=1.011
Testing on validation set
acc=0.713
Training epoch 59
batch 1: loss=0.625
batch 2: loss=0.904
```

batch 3: loss=0.678
batch 4: loss=1.023
batch 5: loss=0.635
batch 6: loss=0.920
batch 7: loss=0.814
batch 8: loss=0.649
batch 9: loss=0.471
batch 10: loss=0.907
batch 11: loss=0.923
batch 12: loss=0.879
batch 13: loss=0.677
batch 14: loss=0.681
batch 15: loss=0.441
batch 16: loss=0.931
batch 17: loss=0.624
batch 18: loss=0.615
batch 19: loss=0.594
batch 20: loss=0.846
batch 21: loss=1.136
batch 22: loss=0.524
batch 23: loss=0.935
batch 24: loss=0.880
batch 25: loss=0.742
batch 26: loss=0.854
batch 27: loss=0.553
batch 28: loss=0.462
batch 29: loss=1.069
batch 30: loss=0.670
batch 31: loss=0.870
batch 32: loss=0.558
batch 33: loss=1.036
batch 34: loss=0.791
batch 35: loss=0.723
batch 36: loss=0.795
batch 37: loss=0.582
batch 38: loss=0.818
batch 39: loss=0.906
batch 40: loss=0.866
batch 41: loss=0.816
batch 42: loss=1.091
batch 43: loss=0.718
batch 44: loss=0.850
batch 45: loss=0.708
batch 46: loss=0.736
batch 47: loss=0.832
batch 48: loss=0.699
batch 49: loss=0.471
batch 50: loss=1.143

```
batch 51: loss=0.769
batch 52: loss=0.451
batch 53: loss=0.731
batch 54: loss=0.631
batch 55: loss=0.684
batch 56: loss=0.722
batch 57: loss=0.942
batch 58: loss=0.930
batch 59: loss=0.825
batch 60: loss=0.730
batch 61: loss=0.655
batch 62: loss=0.639
batch 63: loss=0.979
batch 64: loss=0.631
batch 65: loss=0.843
batch 66: loss=0.677
batch 67: loss=0.475
batch 68: loss=0.715
batch 69: loss=0.461
batch 70: loss=0.683
batch 71: loss=0.806
batch 72: loss=0.749
batch 73: loss=1.216
batch 74: loss=1.345
batch 75: loss=0.708
batch 76: loss=0.749
batch 77: loss=0.931
batch 78: loss=0.770
batch 79: loss=0.620
batch 80: loss=0.856
batch 81: loss=0.896
batch 82: loss=0.728
Testing on validation set
acc=0.688
```

Training epoch 60

```
batch 1: loss=1.033
batch 2: loss=0.711
batch 3: loss=0.518
batch 4: loss=0.744
batch 5: loss=0.869
batch 6: loss=1.052
batch 7: loss=0.723
batch 8: loss=0.857
batch 9: loss=0.589
batch 10: loss=0.585
batch 11: loss=0.509
batch 12: loss=0.741
batch 13: loss=0.802
```


batch 14: loss=0.912
batch 15: loss=0.866
batch 16: loss=0.862
batch 17: loss=0.860
batch 18: loss=0.978
batch 19: loss=1.026
batch 20: loss=0.601
batch 21: loss=0.803
batch 22: loss=0.897
batch 23: loss=0.905
batch 24: loss=0.568
batch 25: loss=0.641
batch 26: loss=0.721
batch 27: loss=0.683
batch 28: loss=0.811
batch 29: loss=0.766
batch 30: loss=0.703
batch 31: loss=0.934
batch 32: loss=0.782
batch 33: loss=0.666
batch 34: loss=0.695
batch 35: loss=0.744
batch 36: loss=0.768
batch 37: loss=0.852
batch 38: loss=0.763
batch 39: loss=0.856
batch 40: loss=0.790
batch 41: loss=0.670
batch 42: loss=0.805
batch 43: loss=1.036
batch 44: loss=0.996
batch 45: loss=0.817
batch 46: loss=0.530
batch 47: loss=0.514
batch 48: loss=0.643
batch 49: loss=1.068
batch 50: loss=0.504
batch 51: loss=0.894
batch 52: loss=0.772
batch 53: loss=0.808
batch 54: loss=0.748
batch 55: loss=0.844
batch 56: loss=0.698
batch 57: loss=0.496
batch 58: loss=0.657
batch 59: loss=0.848
batch 60: loss=0.750
batch 61: loss=0.727

```
batch 62: loss=0.926
batch 63: loss=0.817
batch 64: loss=1.011
batch 65: loss=0.732
batch 66: loss=0.757
batch 67: loss=0.799
batch 68: loss=0.528
batch 69: loss=0.691
batch 70: loss=0.749
batch 71: loss=0.819
batch 72: loss=0.605
batch 73: loss=0.527
batch 74: loss=0.814
batch 75: loss=0.602
batch 76: loss=0.693
batch 77: loss=0.880
batch 78: loss=0.553
batch 79: loss=0.720
batch 80: loss=0.965
batch 81: loss=0.696
batch 82: loss=1.533
Testing on validation set
acc=0.708
```

Training epoch 61

```
batch 1: loss=1.016
batch 2: loss=0.630
batch 3: loss=0.973
batch 4: loss=0.533
batch 5: loss=0.514
batch 6: loss=0.593
batch 7: loss=0.560
batch 8: loss=0.643
batch 9: loss=0.843
batch 10: loss=0.829
batch 11: loss=0.504
batch 12: loss=0.883
batch 13: loss=0.588
batch 14: loss=0.595
batch 15: loss=0.631
batch 16: loss=1.146
batch 17: loss=0.586
batch 18: loss=0.534
batch 19: loss=0.807
batch 20: loss=0.786
batch 21: loss=0.668
batch 22: loss=0.600
batch 23: loss=0.784
batch 24: loss=0.717
```

batch 25: loss=0.711
batch 26: loss=0.824
batch 27: loss=0.974
batch 28: loss=0.894
batch 29: loss=0.639
batch 30: loss=0.836
batch 31: loss=0.616
batch 32: loss=0.607
batch 33: loss=0.633
batch 34: loss=0.562
batch 35: loss=0.750
batch 36: loss=0.738
batch 37: loss=0.518
batch 38: loss=0.871
batch 39: loss=0.713
batch 40: loss=0.619
batch 41: loss=1.020
batch 42: loss=0.838
batch 43: loss=0.670
batch 44: loss=0.589
batch 45: loss=0.714
batch 46: loss=0.565
batch 47: loss=0.735
batch 48: loss=0.922
batch 49: loss=0.836
batch 50: loss=0.796
batch 51: loss=0.584
batch 52: loss=0.469
batch 53: loss=0.533
batch 54: loss=0.631
batch 55: loss=0.721
batch 56: loss=0.689
batch 57: loss=0.637
batch 58: loss=0.905
batch 59: loss=0.386
batch 60: loss=0.656
batch 61: loss=0.629
batch 62: loss=0.664
batch 63: loss=0.520
batch 64: loss=0.926
batch 65: loss=0.447
batch 66: loss=0.905
batch 67: loss=0.722
batch 68: loss=0.913
batch 69: loss=0.946
batch 70: loss=0.598
batch 71: loss=0.914
batch 72: loss=0.716

batch 73: loss=1.059
batch 74: loss=0.912
batch 75: loss=0.903
batch 76: loss=0.806
batch 77: loss=0.783
batch 78: loss=0.577
batch 79: loss=0.820
batch 80: loss=0.534
batch 81: loss=0.779
batch 82: loss=0.596

Testing on validation set
acc=0.693

Training epoch 62

batch 1: loss=0.765
batch 2: loss=0.791
batch 3: loss=0.986
batch 4: loss=0.316
batch 5: loss=0.546
batch 6: loss=0.627
batch 7: loss=0.704
batch 8: loss=0.710
batch 9: loss=0.467
batch 10: loss=0.534
batch 11: loss=0.433
batch 12: loss=0.636
batch 13: loss=0.456
batch 14: loss=0.608
batch 15: loss=0.689
batch 16: loss=0.736
batch 17: loss=0.595
batch 18: loss=0.619
batch 19: loss=0.758
batch 20: loss=0.942
batch 21: loss=0.694
batch 22: loss=0.422
batch 23: loss=0.572
batch 24: loss=0.943
batch 25: loss=0.711
batch 26: loss=0.786
batch 27: loss=0.560
batch 28: loss=0.881
batch 29: loss=0.714
batch 30: loss=0.766
batch 31: loss=0.298
batch 32: loss=0.551
batch 33: loss=0.530
batch 34: loss=0.616
batch 35: loss=0.489

batch 36: loss=0.574
batch 37: loss=0.766
batch 38: loss=0.814
batch 39: loss=0.609
batch 40: loss=0.690
batch 41: loss=0.543
batch 42: loss=0.776
batch 43: loss=0.532
batch 44: loss=0.764
batch 45: loss=0.522
batch 46: loss=0.777
batch 47: loss=0.788
batch 48: loss=0.643
batch 49: loss=0.456
batch 50: loss=0.723
batch 51: loss=0.756
batch 52: loss=0.728
batch 53: loss=0.722
batch 54: loss=0.466
batch 55: loss=0.717
batch 56: loss=0.899
batch 57: loss=0.632
batch 58: loss=0.924
batch 59: loss=0.581
batch 60: loss=0.546
batch 61: loss=1.190
batch 62: loss=0.560
batch 63: loss=0.672
batch 64: loss=0.542
batch 65: loss=0.601
batch 66: loss=0.877
batch 67: loss=1.017
batch 68: loss=0.524
batch 69: loss=0.975
batch 70: loss=0.729
batch 71: loss=0.551
batch 72: loss=0.823
batch 73: loss=0.702
batch 74: loss=0.798
batch 75: loss=0.664
batch 76: loss=0.610
batch 77: loss=0.718
batch 78: loss=0.804
batch 79: loss=0.777
batch 80: loss=0.617
batch 81: loss=0.673
batch 82: loss=1.362
Testing on validation set

acc=0.697

Training epoch 63

batch	1:	loss=0.811
batch	2:	loss=0.597
batch	3:	loss=0.625
batch	4:	loss=0.549
batch	5:	loss=0.736
batch	6:	loss=0.870
batch	7:	loss=0.769
batch	8:	loss=0.679
batch	9:	loss=0.750
batch	10:	loss=0.830
batch	11:	loss=0.604
batch	12:	loss=0.801
batch	13:	loss=0.834
batch	14:	loss=0.862
batch	15:	loss=0.746
batch	16:	loss=0.882
batch	17:	loss=1.057
batch	18:	loss=0.532
batch	19:	loss=0.548
batch	20:	loss=0.904
batch	21:	loss=0.896
batch	22:	loss=0.553
batch	23:	loss=0.756
batch	24:	loss=1.000
batch	25:	loss=0.743
batch	26:	loss=0.662
batch	27:	loss=0.958
batch	28:	loss=0.781
batch	29:	loss=0.648
batch	30:	loss=0.658
batch	31:	loss=0.752
batch	32:	loss=0.535
batch	33:	loss=0.982
batch	34:	loss=0.759
batch	35:	loss=0.541
batch	36:	loss=0.501
batch	37:	loss=0.558
batch	38:	loss=0.626
batch	39:	loss=0.557
batch	40:	loss=0.901
batch	41:	loss=0.494
batch	42:	loss=0.784
batch	43:	loss=0.771
batch	44:	loss=0.857
batch	45:	loss=0.824
batch	46:	loss=0.819

```
batch 47: loss=0.401
batch 48: loss=0.939
batch 49: loss=0.741
batch 50: loss=0.633
batch 51: loss=0.728
batch 52: loss=0.723
batch 53: loss=0.436
batch 54: loss=0.578
batch 55: loss=0.441
batch 56: loss=0.633
batch 57: loss=0.856
batch 58: loss=0.535
batch 59: loss=0.777
batch 60: loss=0.630
batch 61: loss=0.802
batch 62: loss=0.986
batch 63: loss=0.804
batch 64: loss=0.774
batch 65: loss=0.517
batch 66: loss=0.833
batch 67: loss=0.924
batch 68: loss=0.506
batch 69: loss=1.077
batch 70: loss=0.635
batch 71: loss=0.719
batch 72: loss=0.857
batch 73: loss=0.693
batch 74: loss=0.934
batch 75: loss=0.452
batch 76: loss=0.695
batch 77: loss=0.677
batch 78: loss=0.515
batch 79: loss=0.880
batch 80: loss=0.684
batch 81: loss=0.699
batch 82: loss=1.036
Testing on validation set
acc=0.708
```

Training epoch 64

```
batch 1: loss=0.454
batch 2: loss=0.614
batch 3: loss=0.702
batch 4: loss=0.804
batch 5: loss=0.647
batch 6: loss=0.634
batch 7: loss=0.628
batch 8: loss=0.582
batch 9: loss=0.937
```

batch 10: loss=0.416
batch 11: loss=0.656
batch 12: loss=0.598
batch 13: loss=0.581
batch 14: loss=0.817
batch 15: loss=0.778
batch 16: loss=0.484
batch 17: loss=0.481
batch 18: loss=0.833
batch 19: loss=0.771
batch 20: loss=0.741
batch 21: loss=0.727
batch 22: loss=0.585
batch 23: loss=0.755
batch 24: loss=0.604
batch 25: loss=0.806
batch 26: loss=0.460
batch 27: loss=0.714
batch 28: loss=0.594
batch 29: loss=0.792
batch 30: loss=0.608
batch 31: loss=0.728
batch 32: loss=0.873
batch 33: loss=0.687
batch 34: loss=0.695
batch 35: loss=0.843
batch 36: loss=0.704
batch 37: loss=0.671
batch 38: loss=0.460
batch 39: loss=0.765
batch 40: loss=0.612
batch 41: loss=0.756
batch 42: loss=0.603
batch 43: loss=0.667
batch 44: loss=0.489
batch 45: loss=0.655
batch 46: loss=0.728
batch 47: loss=0.657
batch 48: loss=0.719
batch 49: loss=0.422
batch 50: loss=0.542
batch 51: loss=0.886
batch 52: loss=0.553
batch 53: loss=0.887
batch 54: loss=0.654
batch 55: loss=0.730
batch 56: loss=0.727
batch 57: loss=0.393


```
batch 58: loss=0.549
batch 59: loss=0.818
batch 60: loss=0.782
batch 61: loss=0.580
batch 62: loss=0.749
batch 63: loss=0.284
batch 64: loss=0.871
batch 65: loss=0.680
batch 66: loss=0.656
batch 67: loss=0.578
batch 68: loss=0.941
batch 69: loss=0.725
batch 70: loss=0.705
batch 71: loss=0.788
batch 72: loss=0.725
batch 73: loss=0.597
batch 74: loss=0.567
batch 75: loss=0.868
batch 76: loss=0.682
batch 77: loss=0.793
batch 78: loss=0.652
batch 79: loss=0.832
batch 80: loss=0.643
batch 81: loss=0.696
batch 82: loss=0.816
Testing on validation set
acc=0.704
```

Training epoch 65

```
batch 1: loss=0.370
batch 2: loss=0.572
batch 3: loss=0.447
batch 4: loss=0.601
batch 5: loss=0.401
batch 6: loss=0.484
batch 7: loss=0.708
batch 8: loss=0.885
batch 9: loss=1.006
batch 10: loss=0.408
batch 11: loss=0.691
batch 12: loss=0.563
batch 13: loss=0.731
batch 14: loss=0.913
batch 15: loss=0.475
batch 16: loss=0.476
batch 17: loss=0.490
batch 18: loss=0.840
batch 19: loss=0.925
batch 20: loss=0.479
```

batch 21: loss=0.939
batch 22: loss=0.586
batch 23: loss=0.475
batch 24: loss=0.865
batch 25: loss=0.757
batch 26: loss=0.757
batch 27: loss=0.595
batch 28: loss=0.675
batch 29: loss=0.699
batch 30: loss=0.595
batch 31: loss=0.915
batch 32: loss=0.803
batch 33: loss=0.546
batch 34: loss=0.824
batch 35: loss=0.890
batch 36: loss=0.752
batch 37: loss=0.577
batch 38: loss=0.567
batch 39: loss=0.556
batch 40: loss=0.858
batch 41: loss=0.620
batch 42: loss=0.679
batch 43: loss=0.842
batch 44: loss=0.953
batch 45: loss=0.593
batch 46: loss=0.709
batch 47: loss=0.699
batch 48: loss=0.394
batch 49: loss=0.975
batch 50: loss=0.698
batch 51: loss=0.885
batch 52: loss=0.671
batch 53: loss=0.771
batch 54: loss=0.852
batch 55: loss=0.786
batch 56: loss=0.539
batch 57: loss=0.540
batch 58: loss=0.645
batch 59: loss=1.035
batch 60: loss=0.834
batch 61: loss=0.799
batch 62: loss=0.503
batch 63: loss=0.629
batch 64: loss=0.614
batch 65: loss=0.805
batch 66: loss=0.763
batch 67: loss=0.758
batch 68: loss=0.671

batch 69: loss=0.457
batch 70: loss=0.480
batch 71: loss=0.512
batch 72: loss=0.876
batch 73: loss=0.598
batch 74: loss=0.535
batch 75: loss=0.643
batch 76: loss=0.867
batch 77: loss=0.443
batch 78: loss=0.597
batch 79: loss=1.035
batch 80: loss=1.128
batch 81: loss=0.667
batch 82: loss=0.967
Testing on validation set
acc=0.714

Training epoch 66

batch 1: loss=0.846
batch 2: loss=0.663
batch 3: loss=0.414
batch 4: loss=0.546
batch 5: loss=0.765
batch 6: loss=0.595
batch 7: loss=0.531
batch 8: loss=0.443
batch 9: loss=0.415
batch 10: loss=0.554
batch 11: loss=0.610
batch 12: loss=0.650
batch 13: loss=0.559
batch 14: loss=0.430
batch 15: loss=0.897
batch 16: loss=0.602
batch 17: loss=0.576
batch 18: loss=0.966
batch 19: loss=0.536
batch 20: loss=0.546
batch 21: loss=0.629
batch 22: loss=0.605
batch 23: loss=0.686
batch 24: loss=0.369
batch 25: loss=0.646
batch 26: loss=0.960
batch 27: loss=0.641
batch 28: loss=0.459
batch 29: loss=0.598
batch 30: loss=0.494
batch 31: loss=0.513

batch 32: loss=0.566
batch 33: loss=0.613
batch 34: loss=0.459
batch 35: loss=0.811
batch 36: loss=0.859
batch 37: loss=0.681
batch 38: loss=0.613
batch 39: loss=0.798
batch 40: loss=0.519
batch 41: loss=0.664
batch 42: loss=0.939
batch 43: loss=0.606
batch 44: loss=0.844
batch 45: loss=0.581
batch 46: loss=0.877
batch 47: loss=0.784
batch 48: loss=0.591
batch 49: loss=0.578
batch 50: loss=0.686
batch 51: loss=0.731
batch 52: loss=0.851
batch 53: loss=0.433
batch 54: loss=0.779
batch 55: loss=0.671
batch 56: loss=0.714
batch 57: loss=0.685
batch 58: loss=0.626
batch 59: loss=1.007
batch 60: loss=0.716
batch 61: loss=0.715
batch 62: loss=0.656
batch 63: loss=0.954
batch 64: loss=0.709
batch 65: loss=0.718
batch 66: loss=0.897
batch 67: loss=0.567
batch 68: loss=0.807
batch 69: loss=1.069
batch 70: loss=0.799
batch 71: loss=0.825
batch 72: loss=0.966
batch 73: loss=0.655
batch 74: loss=0.412
batch 75: loss=1.022
batch 76: loss=0.822
batch 77: loss=0.826
batch 78: loss=0.710
batch 79: loss=0.719

batch 80: loss=0.583
batch 81: loss=0.621
batch 82: loss=0.917
Testing on validation set
acc=0.691

Training epoch 67

batch 1: loss=0.885
batch 2: loss=0.488
batch 3: loss=0.756
batch 4: loss=0.483
batch 5: loss=0.960
batch 6: loss=0.984
batch 7: loss=0.763
batch 8: loss=0.525
batch 9: loss=0.734
batch 10: loss=0.766
batch 11: loss=0.510
batch 12: loss=0.677
batch 13: loss=0.640
batch 14: loss=0.840
batch 15: loss=0.554
batch 16: loss=0.593
batch 17: loss=0.736
batch 18: loss=0.362
batch 19: loss=0.657
batch 20: loss=0.820
batch 21: loss=0.499
batch 22: loss=0.789
batch 23: loss=0.452
batch 24: loss=0.855
batch 25: loss=0.507
batch 26: loss=0.370
batch 27: loss=0.725
batch 28: loss=0.673
batch 29: loss=0.346
batch 30: loss=0.820
batch 31: loss=0.637
batch 32: loss=0.627
batch 33: loss=0.649
batch 34: loss=0.877
batch 35: loss=0.581
batch 36: loss=0.603
batch 37: loss=0.435
batch 38: loss=0.697
batch 39: loss=0.800
batch 40: loss=0.724
batch 41: loss=0.488
batch 42: loss=0.785

```
batch 43: loss=0.921
batch 44: loss=0.757
batch 45: loss=0.933
batch 46: loss=0.822
batch 47: loss=0.824
batch 48: loss=0.736
batch 49: loss=0.683
batch 50: loss=0.714
batch 51: loss=0.581
batch 52: loss=0.518
batch 53: loss=0.819
batch 54: loss=0.520
batch 55: loss=0.612
batch 56: loss=0.617
batch 57: loss=1.047
batch 58: loss=0.780
batch 59: loss=0.774
batch 60: loss=0.701
batch 61: loss=0.550
batch 62: loss=0.681
batch 63: loss=0.741
batch 64: loss=0.829
batch 65: loss=0.726
batch 66: loss=0.434
batch 67: loss=0.537
batch 68: loss=0.688
batch 69: loss=0.480
batch 70: loss=0.806
batch 71: loss=0.779
batch 72: loss=0.802
batch 73: loss=0.558
batch 74: loss=0.674
batch 75: loss=0.704
batch 76: loss=0.533
batch 77: loss=0.854
batch 78: loss=0.651
batch 79: loss=0.715
batch 80: loss=0.581
batch 81: loss=0.583
batch 82: loss=0.795
Testing on validation set
acc=0.715
Training epoch 68
batch 1: loss=0.372
batch 2: loss=0.565
batch 3: loss=0.551
batch 4: loss=0.577
batch 5: loss=0.628
```

batch 6: loss=0.931
batch 7: loss=0.614
batch 8: loss=0.520
batch 9: loss=0.582
batch 10: loss=0.585
batch 11: loss=0.677
batch 12: loss=0.628
batch 13: loss=0.393
batch 14: loss=0.562
batch 15: loss=0.839
batch 16: loss=0.646
batch 17: loss=0.519
batch 18: loss=0.530
batch 19: loss=0.704
batch 20: loss=0.661
batch 21: loss=0.828
batch 22: loss=0.785
batch 23: loss=0.676
batch 24: loss=0.941
batch 25: loss=0.708
batch 26: loss=0.814
batch 27: loss=0.623
batch 28: loss=0.659
batch 29: loss=0.661
batch 30: loss=0.354
batch 31: loss=0.810
batch 32: loss=0.691
batch 33: loss=0.523
batch 34: loss=0.625
batch 35: loss=0.396
batch 36: loss=0.598
batch 37: loss=0.762
batch 38: loss=0.762
batch 39: loss=0.629
batch 40: loss=0.567
batch 41: loss=0.535
batch 42: loss=0.874
batch 43: loss=0.681
batch 44: loss=0.404
batch 45: loss=0.986
batch 46: loss=0.704
batch 47: loss=0.378
batch 48: loss=0.621
batch 49: loss=0.671
batch 50: loss=0.318
batch 51: loss=0.668
batch 52: loss=0.830
batch 53: loss=0.799

```
batch 54: loss=0.599
batch 55: loss=0.507
batch 56: loss=0.449
batch 57: loss=0.677
batch 58: loss=0.649
batch 59: loss=0.683
batch 60: loss=0.589
batch 61: loss=0.843
batch 62: loss=0.915
batch 63: loss=0.802
batch 64: loss=0.401
batch 65: loss=0.749
batch 66: loss=0.658
batch 67: loss=0.992
batch 68: loss=0.606
batch 69: loss=0.673
batch 70: loss=0.681
batch 71: loss=0.844
batch 72: loss=0.747
batch 73: loss=0.851
batch 74: loss=0.658
batch 75: loss=0.493
batch 76: loss=0.627
batch 77: loss=0.747
batch 78: loss=0.868
batch 79: loss=0.712
batch 80: loss=0.804
batch 81: loss=1.069
batch 82: loss=0.512
Testing on validation set
acc=0.700
```

Training epoch 69

```
batch 1: loss=0.713
batch 2: loss=0.465
batch 3: loss=0.850
batch 4: loss=0.502
batch 5: loss=0.718
batch 6: loss=0.325
batch 7: loss=0.647
batch 8: loss=0.570
batch 9: loss=0.775
batch 10: loss=0.565
batch 11: loss=0.627
batch 12: loss=0.952
batch 13: loss=0.961
batch 14: loss=0.457
batch 15: loss=0.610
batch 16: loss=0.685
```


batch 17: loss=0.620
batch 18: loss=0.735
batch 19: loss=0.409
batch 20: loss=0.654
batch 21: loss=0.656
batch 22: loss=0.555
batch 23: loss=0.403
batch 24: loss=0.662
batch 25: loss=0.636
batch 26: loss=0.736
batch 27: loss=0.681
batch 28: loss=0.425
batch 29: loss=0.453
batch 30: loss=0.584
batch 31: loss=0.532
batch 32: loss=0.548
batch 33: loss=0.841
batch 34: loss=0.713
batch 35: loss=0.486
batch 36: loss=0.600
batch 37: loss=0.356
batch 38: loss=0.658
batch 39: loss=0.774
batch 40: loss=0.638
batch 41: loss=0.438
batch 42: loss=0.962
batch 43: loss=0.447
batch 44: loss=0.673
batch 45: loss=0.654
batch 46: loss=0.628
batch 47: loss=0.935
batch 48: loss=0.600
batch 49: loss=0.488
batch 50: loss=0.498
batch 51: loss=0.754
batch 52: loss=0.608
batch 53: loss=0.694
batch 54: loss=0.572
batch 55: loss=0.401
batch 56: loss=0.767
batch 57: loss=0.701
batch 58: loss=0.536
batch 59: loss=0.912
batch 60: loss=0.772
batch 61: loss=0.578
batch 62: loss=0.661
batch 63: loss=0.709
batch 64: loss=0.911

```
batch 65: loss=0.802
batch 66: loss=0.753
batch 67: loss=0.526
batch 68: loss=0.658
batch 69: loss=0.628
batch 70: loss=0.685
batch 71: loss=0.521
batch 72: loss=0.508
batch 73: loss=0.602
batch 74: loss=0.633
batch 75: loss=0.724
batch 76: loss=0.558
batch 77: loss=0.665
batch 78: loss=0.544
batch 79: loss=0.584
batch 80: loss=0.550
batch 81: loss=0.655
batch 82: loss=1.439
Testing on validation set
acc=0.706
```

Training epoch 70

```
batch 1: loss=0.490
batch 2: loss=0.394
batch 3: loss=0.615
batch 4: loss=0.622
batch 5: loss=0.816
batch 6: loss=0.741
batch 7: loss=0.645
batch 8: loss=0.522
batch 9: loss=0.755
batch 10: loss=0.662
batch 11: loss=0.556
batch 12: loss=0.779
batch 13: loss=0.559
batch 14: loss=0.867
batch 15: loss=0.479
batch 16: loss=0.407
batch 17: loss=0.731
batch 18: loss=0.432
batch 19: loss=0.698
batch 20: loss=0.583
batch 21: loss=0.983
batch 22: loss=0.498
batch 23: loss=0.382
batch 24: loss=0.442
batch 25: loss=0.664
batch 26: loss=0.433
batch 27: loss=0.748
```

batch 28: loss=0.802
batch 29: loss=0.956
batch 30: loss=0.544
batch 31: loss=0.313
batch 32: loss=0.671
batch 33: loss=0.686
batch 34: loss=0.737
batch 35: loss=0.526
batch 36: loss=0.618
batch 37: loss=0.591
batch 38: loss=0.547
batch 39: loss=0.604
batch 40: loss=0.408
batch 41: loss=0.699
batch 42: loss=0.738
batch 43: loss=0.718
batch 44: loss=0.579
batch 45: loss=0.668
batch 46: loss=0.557
batch 47: loss=0.786
batch 48: loss=0.621
batch 49: loss=0.481
batch 50: loss=0.680
batch 51: loss=0.477
batch 52: loss=0.840
batch 53: loss=0.694
batch 54: loss=0.561
batch 55: loss=0.588
batch 56: loss=0.482
batch 57: loss=0.782
batch 58: loss=1.105
batch 59: loss=0.648
batch 60: loss=0.609
batch 61: loss=0.716
batch 62: loss=0.651
batch 63: loss=0.741
batch 64: loss=0.773
batch 65: loss=0.658
batch 66: loss=0.581
batch 67: loss=0.733
batch 68: loss=0.560
batch 69: loss=0.985
batch 70: loss=0.699
batch 71: loss=0.832
batch 72: loss=0.732
batch 73: loss=0.595
batch 74: loss=0.685
batch 75: loss=0.557

```
batch 76: loss=1.181
batch 77: loss=0.757
batch 78: loss=0.924
batch 79: loss=0.500
batch 80: loss=0.887
batch 81: loss=0.729
batch 82: loss=0.642
Testing on validation set
acc=0.713
```

Training epoch 71

```
batch 1: loss=0.440
batch 2: loss=0.459
batch 3: loss=0.640
batch 4: loss=0.525
batch 5: loss=0.504
batch 6: loss=0.407
batch 7: loss=0.786
batch 8: loss=0.849
batch 9: loss=0.544
batch 10: loss=0.941
batch 11: loss=0.420
batch 12: loss=0.484
batch 13: loss=0.780
batch 14: loss=0.763
batch 15: loss=0.660
batch 16: loss=0.494
batch 17: loss=0.719
batch 18: loss=0.566
batch 19: loss=0.645
batch 20: loss=0.613
batch 21: loss=0.626
batch 22: loss=0.429
batch 23: loss=0.409
batch 24: loss=0.840
batch 25: loss=0.552
batch 26: loss=0.828
batch 27: loss=0.579
batch 28: loss=0.629
batch 29: loss=0.472
batch 30: loss=0.855
batch 31: loss=0.360
batch 32: loss=0.539
batch 33: loss=0.595
batch 34: loss=0.588
batch 35: loss=0.761
batch 36: loss=0.763
batch 37: loss=0.605
batch 38: loss=0.680
```

```
batch 39: loss=0.632
batch 40: loss=0.663
batch 41: loss=0.648
batch 42: loss=0.476
batch 43: loss=0.767
batch 44: loss=0.451
batch 45: loss=0.282
batch 46: loss=0.509
batch 47: loss=0.927
batch 48: loss=0.693
batch 49: loss=0.747
batch 50: loss=0.375
batch 51: loss=0.655
batch 52: loss=0.972
batch 53: loss=0.598
batch 54: loss=0.540
batch 55: loss=0.619
batch 56: loss=0.620
batch 57: loss=0.810
batch 58: loss=0.375
batch 59: loss=0.784
batch 60: loss=0.897
batch 61: loss=0.684
batch 62: loss=0.742
batch 63: loss=0.386
batch 64: loss=0.647
batch 65: loss=0.504
batch 66: loss=0.513
batch 67: loss=0.635
batch 68: loss=0.957
batch 69: loss=0.506
batch 70: loss=0.564
batch 71: loss=0.477
batch 72: loss=0.715
batch 73: loss=0.661
batch 74: loss=1.206
batch 75: loss=0.905
batch 76: loss=0.626
batch 77: loss=0.423
batch 78: loss=0.681
batch 79: loss=0.749
batch 80: loss=0.326
batch 81: loss=0.694
batch 82: loss=2.108
Testing on validation set
acc=0.714
Training epoch 72
batch 1: loss=0.407
```

batch 2: loss=0.567
batch 3: loss=0.435
batch 4: loss=0.700
batch 5: loss=0.889
batch 6: loss=0.654
batch 7: loss=0.620
batch 8: loss=0.561
batch 9: loss=0.877
batch 10: loss=0.738
batch 11: loss=0.635
batch 12: loss=0.396
batch 13: loss=0.815
batch 14: loss=0.492
batch 15: loss=0.524
batch 16: loss=0.682
batch 17: loss=0.625
batch 18: loss=0.702
batch 19: loss=0.726
batch 20: loss=0.569
batch 21: loss=0.561
batch 22: loss=0.545
batch 23: loss=0.563
batch 24: loss=0.457
batch 25: loss=0.476
batch 26: loss=0.563
batch 27: loss=0.721
batch 28: loss=0.430
batch 29: loss=0.412
batch 30: loss=0.770
batch 31: loss=0.530
batch 32: loss=0.788
batch 33: loss=0.910
batch 34: loss=0.655
batch 35: loss=0.654
batch 36: loss=0.588
batch 37: loss=0.730
batch 38: loss=0.532
batch 39: loss=0.697
batch 40: loss=0.623
batch 41: loss=0.929
batch 42: loss=0.863
batch 43: loss=0.801
batch 44: loss=0.431
batch 45: loss=0.628
batch 46: loss=0.376
batch 47: loss=0.433
batch 48: loss=0.573
batch 49: loss=0.648

```
batch 50: loss=0.668
batch 51: loss=0.738
batch 52: loss=0.257
batch 53: loss=0.783
batch 54: loss=0.618
batch 55: loss=0.543
batch 56: loss=0.758
batch 57: loss=0.392
batch 58: loss=0.604
batch 59: loss=0.833
batch 60: loss=0.638
batch 61: loss=0.559
batch 62: loss=0.485
batch 63: loss=0.583
batch 64: loss=0.892
batch 65: loss=0.842
batch 66: loss=0.619
batch 67: loss=0.896
batch 68: loss=0.596
batch 69: loss=0.696
batch 70: loss=0.806
batch 71: loss=0.660
batch 72: loss=0.898
batch 73: loss=0.580
batch 74: loss=0.722
batch 75: loss=0.872
batch 76: loss=0.733
batch 77: loss=0.757
batch 78: loss=0.681
batch 79: loss=0.712
batch 80: loss=0.480
batch 81: loss=0.458
batch 82: loss=0.934
Testing on validation set
acc=0.724
```

Training epoch 73

```
batch 1: loss=0.767
batch 2: loss=0.702
batch 3: loss=0.691
batch 4: loss=0.549
batch 5: loss=0.652
batch 6: loss=0.330
batch 7: loss=0.450
batch 8: loss=0.497
batch 9: loss=0.399
batch 10: loss=1.026
batch 11: loss=0.674
batch 12: loss=0.599
```

batch 13: loss=0.651
batch 14: loss=0.648
batch 15: loss=0.525
batch 16: loss=0.824
batch 17: loss=0.665
batch 18: loss=0.815
batch 19: loss=0.544
batch 20: loss=0.536
batch 21: loss=0.420
batch 22: loss=0.775
batch 23: loss=0.426
batch 24: loss=0.398
batch 25: loss=0.303
batch 26: loss=0.392
batch 27: loss=0.847
batch 28: loss=0.550
batch 29: loss=0.734
batch 30: loss=0.473
batch 31: loss=0.568
batch 32: loss=0.495
batch 33: loss=0.616
batch 34: loss=0.705
batch 35: loss=0.551
batch 36: loss=1.036
batch 37: loss=0.517
batch 38: loss=0.809
batch 39: loss=0.689
batch 40: loss=0.517
batch 41: loss=0.559
batch 42: loss=0.561
batch 43: loss=0.562
batch 44: loss=0.548
batch 45: loss=0.505
batch 46: loss=0.668
batch 47: loss=0.574
batch 48: loss=0.743
batch 49: loss=0.514
batch 50: loss=0.652
batch 51: loss=0.470
batch 52: loss=0.979
batch 53: loss=0.553
batch 54: loss=0.671
batch 55: loss=0.594
batch 56: loss=0.646
batch 57: loss=0.587
batch 58: loss=0.666
batch 59: loss=0.713
batch 60: loss=1.142

batch 61: loss=0.630
batch 62: loss=0.437
batch 63: loss=0.687
batch 64: loss=0.471
batch 65: loss=0.868
batch 66: loss=0.894
batch 67: loss=0.792
batch 68: loss=0.698
batch 69: loss=0.695
batch 70: loss=0.621
batch 71: loss=0.639
batch 72: loss=0.486
batch 73: loss=0.856
batch 74: loss=0.773
batch 75: loss=0.583
batch 76: loss=0.621
batch 77: loss=0.702
batch 78: loss=0.591
batch 79: loss=0.668
batch 80: loss=0.367
batch 81: loss=0.980
batch 82: loss=0.536

Testing on validation set
acc=0.713

Training epoch 74

batch 1: loss=0.588
batch 2: loss=0.542
batch 3: loss=0.476
batch 4: loss=0.673
batch 5: loss=0.482
batch 6: loss=0.571
batch 7: loss=0.653
batch 8: loss=0.641
batch 9: loss=0.248
batch 10: loss=0.489
batch 11: loss=0.327
batch 12: loss=0.714
batch 13: loss=0.572
batch 14: loss=0.823
batch 15: loss=0.736
batch 16: loss=0.662
batch 17: loss=0.541
batch 18: loss=0.679
batch 19: loss=0.281
batch 20: loss=0.681
batch 21: loss=0.425
batch 22: loss=0.713
batch 23: loss=0.759

batch 24: loss=0.831
batch 25: loss=0.583
batch 26: loss=0.628
batch 27: loss=0.474
batch 28: loss=0.502
batch 29: loss=0.876
batch 30: loss=0.561
batch 31: loss=0.639
batch 32: loss=0.553
batch 33: loss=0.621
batch 34: loss=0.595
batch 35: loss=0.650
batch 36: loss=0.682
batch 37: loss=0.559
batch 38: loss=0.755
batch 39: loss=0.849
batch 40: loss=0.617
batch 41: loss=0.492
batch 42: loss=0.463
batch 43: loss=0.531
batch 44: loss=0.656
batch 45: loss=0.668
batch 46: loss=0.864
batch 47: loss=0.670
batch 48: loss=0.475
batch 49: loss=0.459
batch 50: loss=0.520
batch 51: loss=0.731
batch 52: loss=0.470
batch 53: loss=0.525
batch 54: loss=0.536
batch 55: loss=0.693
batch 56: loss=0.507
batch 57: loss=0.643
batch 58: loss=0.535
batch 59: loss=0.809
batch 60: loss=0.672
batch 61: loss=0.559
batch 62: loss=0.592
batch 63: loss=0.802
batch 64: loss=0.463
batch 65: loss=0.697
batch 66: loss=0.657
batch 67: loss=0.363
batch 68: loss=0.539
batch 69: loss=0.553
batch 70: loss=0.827
batch 71: loss=0.520

```
batch 72: loss=0.563
batch 73: loss=0.334
batch 74: loss=0.492
batch 75: loss=0.427
batch 76: loss=0.760
batch 77: loss=0.913
batch 78: loss=0.330
batch 79: loss=0.525
batch 80: loss=0.675
batch 81: loss=0.629
batch 82: loss=0.476
Testing on validation set
acc=0.702
```

Training epoch 75

```
batch 1: loss=0.709
batch 2: loss=0.283
batch 3: loss=0.362
batch 4: loss=0.745
batch 5: loss=0.565
batch 6: loss=0.485
batch 7: loss=0.484
batch 8: loss=0.552
batch 9: loss=0.536
batch 10: loss=0.647
batch 11: loss=0.769
batch 12: loss=0.540
batch 13: loss=0.778
batch 14: loss=1.031
batch 15: loss=0.822
batch 16: loss=0.819
batch 17: loss=0.630
batch 18: loss=0.527
batch 19: loss=0.606
batch 20: loss=0.558
batch 21: loss=0.719
batch 22: loss=0.700
batch 23: loss=0.515
batch 24: loss=0.910
batch 25: loss=0.798
batch 26: loss=0.855
batch 27: loss=0.484
batch 28: loss=0.610
batch 29: loss=0.459
batch 30: loss=0.368
batch 31: loss=0.615
batch 32: loss=0.585
batch 33: loss=0.496
batch 34: loss=0.790
```

batch 35: loss=0.357
batch 36: loss=0.609
batch 37: loss=0.577
batch 38: loss=0.491
batch 39: loss=0.525
batch 40: loss=0.694
batch 41: loss=0.538
batch 42: loss=0.501
batch 43: loss=0.561
batch 44: loss=0.574
batch 45: loss=0.959
batch 46: loss=0.642
batch 47: loss=0.558
batch 48: loss=0.604
batch 49: loss=0.503
batch 50: loss=0.714
batch 51: loss=0.615
batch 52: loss=0.697
batch 53: loss=0.649
batch 54: loss=0.644
batch 55: loss=0.445
batch 56: loss=0.417
batch 57: loss=0.912
batch 58: loss=0.666
batch 59: loss=0.816
batch 60: loss=0.473
batch 61: loss=0.602
batch 62: loss=0.586
batch 63: loss=0.490
batch 64: loss=0.817
batch 65: loss=0.544
batch 66: loss=0.435
batch 67: loss=0.316
batch 68: loss=0.709
batch 69: loss=0.430
batch 70: loss=0.714
batch 71: loss=0.527
batch 72: loss=0.480
batch 73: loss=0.591
batch 74: loss=0.780
batch 75: loss=0.646
batch 76: loss=0.486
batch 77: loss=0.798
batch 78: loss=0.750
batch 79: loss=0.581
batch 80: loss=0.632
batch 81: loss=0.574
batch 82: loss=1.074

Testing on validation set
acc=0.717

Training epoch 76

batch	1:	loss=0.675
batch	2:	loss=0.433
batch	3:	loss=0.497
batch	4:	loss=0.730
batch	5:	loss=0.824
batch	6:	loss=0.750
batch	7:	loss=0.732
batch	8:	loss=0.528
batch	9:	loss=0.926
batch	10:	loss=1.040
batch	11:	loss=0.753
batch	12:	loss=0.600
batch	13:	loss=0.659
batch	14:	loss=0.462
batch	15:	loss=0.771
batch	16:	loss=0.546
batch	17:	loss=0.542
batch	18:	loss=0.454
batch	19:	loss=0.884
batch	20:	loss=0.504
batch	21:	loss=0.921
batch	22:	loss=0.730
batch	23:	loss=0.517
batch	24:	loss=0.475
batch	25:	loss=0.712
batch	26:	loss=0.825
batch	27:	loss=0.861
batch	28:	loss=0.615
batch	29:	loss=0.626
batch	30:	loss=0.765
batch	31:	loss=0.510
batch	32:	loss=0.731
batch	33:	loss=0.531
batch	34:	loss=0.353
batch	35:	loss=0.360
batch	36:	loss=0.726
batch	37:	loss=0.651
batch	38:	loss=0.626
batch	39:	loss=0.765
batch	40:	loss=0.428
batch	41:	loss=0.682
batch	42:	loss=0.570
batch	43:	loss=0.692
batch	44:	loss=0.746
batch	45:	loss=0.671

batch 46: loss=0.684
batch 47: loss=0.533
batch 48: loss=0.501
batch 49: loss=0.679
batch 50: loss=0.576
batch 51: loss=0.632
batch 52: loss=0.520
batch 53: loss=0.719
batch 54: loss=0.713
batch 55: loss=0.408
batch 56: loss=0.499
batch 57: loss=0.633
batch 58: loss=0.860
batch 59: loss=0.725
batch 60: loss=0.622
batch 61: loss=0.815
batch 62: loss=0.831
batch 63: loss=0.448
batch 64: loss=0.811
batch 65: loss=0.697
batch 66: loss=0.501
batch 67: loss=0.705
batch 68: loss=0.665
batch 69: loss=0.583
batch 70: loss=0.713
batch 71: loss=0.666
batch 72: loss=0.961
batch 73: loss=0.413
batch 74: loss=0.547
batch 75: loss=0.731
batch 76: loss=0.519
batch 77: loss=0.824
batch 78: loss=0.549
batch 79: loss=0.418
batch 80: loss=0.634
batch 81: loss=0.781
batch 82: loss=0.862

Testing on validation set
acc=0.715

Training epoch 77

batch 1: loss=0.667
batch 2: loss=0.409
batch 3: loss=0.601
batch 4: loss=0.355
batch 5: loss=0.420
batch 6: loss=0.391
batch 7: loss=0.703
batch 8: loss=0.871

batch 9: loss=0.585
batch 10: loss=0.548
batch 11: loss=1.025
batch 12: loss=0.508
batch 13: loss=0.706
batch 14: loss=0.478
batch 15: loss=0.565
batch 16: loss=0.801
batch 17: loss=0.620
batch 18: loss=0.768
batch 19: loss=0.607
batch 20: loss=0.584
batch 21: loss=0.604
batch 22: loss=0.406
batch 23: loss=0.982
batch 24: loss=0.377
batch 25: loss=0.469
batch 26: loss=0.667
batch 27: loss=0.494
batch 28: loss=0.976
batch 29: loss=0.648
batch 30: loss=0.496
batch 31: loss=0.777
batch 32: loss=0.559
batch 33: loss=0.686
batch 34: loss=0.353
batch 35: loss=0.803
batch 36: loss=0.472
batch 37: loss=0.590
batch 38: loss=0.430
batch 39: loss=0.772
batch 40: loss=0.566
batch 41: loss=0.605
batch 42: loss=0.387
batch 43: loss=0.973
batch 44: loss=0.653
batch 45: loss=0.639
batch 46: loss=0.878
batch 47: loss=0.492
batch 48: loss=0.271
batch 49: loss=0.568
batch 50: loss=0.536
batch 51: loss=0.725
batch 52: loss=0.675
batch 53: loss=0.492
batch 54: loss=0.636
batch 55: loss=0.618
batch 56: loss=0.593

batch 57: loss=0.595
batch 58: loss=0.463
batch 59: loss=0.537
batch 60: loss=0.528
batch 61: loss=0.436
batch 62: loss=0.700
batch 63: loss=0.482
batch 64: loss=0.549
batch 65: loss=0.619
batch 66: loss=0.523
batch 67: loss=0.569
batch 68: loss=0.558
batch 69: loss=0.425
batch 70: loss=0.816
batch 71: loss=0.398
batch 72: loss=0.680
batch 73: loss=0.526
batch 74: loss=0.557
batch 75: loss=0.576
batch 76: loss=0.738
batch 77: loss=0.412
batch 78: loss=0.776
batch 79: loss=0.493
batch 80: loss=0.726
batch 81: loss=0.347
batch 82: loss=0.799

Testing on validation set

acc=0.700

Training epoch 78

batch 1: loss=0.548
batch 2: loss=0.384
batch 3: loss=0.639
batch 4: loss=0.681
batch 5: loss=0.449
batch 6: loss=0.526
batch 7: loss=0.415
batch 8: loss=0.555
batch 9: loss=0.668
batch 10: loss=0.440
batch 11: loss=0.709
batch 12: loss=0.701
batch 13: loss=0.572
batch 14: loss=0.654
batch 15: loss=0.631
batch 16: loss=0.722
batch 17: loss=0.517
batch 18: loss=0.425
batch 19: loss=0.877

batch 20: loss=0.461
batch 21: loss=0.507
batch 22: loss=0.419
batch 23: loss=1.042
batch 24: loss=0.550
batch 25: loss=0.547
batch 26: loss=0.578
batch 27: loss=0.525
batch 28: loss=0.775
batch 29: loss=0.536
batch 30: loss=0.537
batch 31: loss=0.701
batch 32: loss=0.582
batch 33: loss=0.572
batch 34: loss=0.597
batch 35: loss=0.358
batch 36: loss=0.561
batch 37: loss=0.588
batch 38: loss=0.647
batch 39: loss=0.598
batch 40: loss=0.426
batch 41: loss=0.540
batch 42: loss=0.621
batch 43: loss=0.783
batch 44: loss=0.757
batch 45: loss=0.475
batch 46: loss=1.084
batch 47: loss=0.494
batch 48: loss=0.739
batch 49: loss=0.775
batch 50: loss=0.627
batch 51: loss=1.004
batch 52: loss=0.586
batch 53: loss=0.740
batch 54: loss=0.672
batch 55: loss=0.657
batch 56: loss=0.379
batch 57: loss=0.728
batch 58: loss=0.363
batch 59: loss=0.533
batch 60: loss=0.296
batch 61: loss=0.660
batch 62: loss=0.453
batch 63: loss=0.556
batch 64: loss=0.364
batch 65: loss=0.577
batch 66: loss=0.733
batch 67: loss=0.236

```
batch 68: loss=0.800
batch 69: loss=0.369
batch 70: loss=0.669
batch 71: loss=0.680
batch 72: loss=0.557
batch 73: loss=0.640
batch 74: loss=0.424
batch 75: loss=0.594
batch 76: loss=0.569
batch 77: loss=0.324
batch 78: loss=0.567
batch 79: loss=0.638
batch 80: loss=0.487
batch 81: loss=0.361
batch 82: loss=1.157
```

```
Testing on validation set
acc=0.721
```

```
Training epoch 79
```

```
batch 1: loss=0.599
batch 2: loss=0.593
batch 3: loss=0.729
batch 4: loss=0.529
batch 5: loss=0.357
batch 6: loss=0.477
batch 7: loss=0.515
batch 8: loss=0.411
batch 9: loss=0.825
batch 10: loss=0.658
batch 11: loss=0.552
batch 12: loss=0.409
batch 13: loss=0.714
batch 14: loss=0.562
batch 15: loss=0.542
batch 16: loss=0.504
batch 17: loss=0.621
batch 18: loss=0.490
batch 19: loss=0.615
batch 20: loss=0.522
batch 21: loss=0.344
batch 22: loss=0.708
batch 23: loss=0.380
batch 24: loss=0.442
batch 25: loss=0.504
batch 26: loss=0.581
batch 27: loss=0.437
batch 28: loss=0.447
batch 29: loss=0.618
batch 30: loss=0.679
```

batch 31: loss=0.480
batch 32: loss=0.733
batch 33: loss=0.770
batch 34: loss=0.591
batch 35: loss=0.615
batch 36: loss=0.798
batch 37: loss=0.563
batch 38: loss=0.803
batch 39: loss=0.508
batch 40: loss=0.398
batch 41: loss=0.652
batch 42: loss=0.605
batch 43: loss=0.437
batch 44: loss=0.607
batch 45: loss=0.507
batch 46: loss=0.744
batch 47: loss=0.646
batch 48: loss=0.682
batch 49: loss=0.487
batch 50: loss=0.810
batch 51: loss=0.556
batch 52: loss=0.778
batch 53: loss=0.442
batch 54: loss=0.734
batch 55: loss=0.514
batch 56: loss=0.686
batch 57: loss=0.797
batch 58: loss=0.564
batch 59: loss=0.775
batch 60: loss=0.481
batch 61: loss=0.446
batch 62: loss=0.721
batch 63: loss=0.706
batch 64: loss=0.530
batch 65: loss=0.463
batch 66: loss=0.611
batch 67: loss=0.543
batch 68: loss=0.352
batch 69: loss=0.620
batch 70: loss=0.561
batch 71: loss=0.590
batch 72: loss=0.556
batch 73: loss=0.656
batch 74: loss=0.587
batch 75: loss=0.506
batch 76: loss=0.741
batch 77: loss=0.875
batch 78: loss=0.589

```
batch    79: loss=0.573
batch    80: loss=0.666
batch    81: loss=0.660
batch    82: loss=0.638
Testing on validation set
acc=0.728
```

Training epoch 80

```
batch     1: loss=0.713
batch     2: loss=0.574
batch     3: loss=0.407
batch     4: loss=0.621
batch     5: loss=0.429
batch     6: loss=1.249
batch     7: loss=0.689
batch     8: loss=0.354
batch     9: loss=0.549
batch    10: loss=0.492
batch    11: loss=0.640
batch    12: loss=0.546
batch    13: loss=0.452
batch    14: loss=0.540
batch    15: loss=0.617
batch    16: loss=0.401
batch    17: loss=0.383
batch    18: loss=0.403
batch    19: loss=0.711
batch    20: loss=0.577
batch    21: loss=0.462
batch    22: loss=0.555
batch    23: loss=0.502
batch    24: loss=0.700
batch    25: loss=0.368
batch    26: loss=0.470
batch    27: loss=0.429
batch    28: loss=0.578
batch    29: loss=0.769
batch    30: loss=0.564
batch    31: loss=0.471
batch    32: loss=0.538
batch    33: loss=0.349
batch    34: loss=0.405
batch    35: loss=0.683
batch    36: loss=0.455
batch    37: loss=0.618
batch    38: loss=0.778
batch    39: loss=0.750
batch    40: loss=0.739
batch    41: loss=0.436
```

```
batch 42: loss=0.564
batch 43: loss=0.354
batch 44: loss=0.768
batch 45: loss=0.787
batch 46: loss=0.604
batch 47: loss=0.617
batch 48: loss=0.403
batch 49: loss=0.685
batch 50: loss=0.406
batch 51: loss=0.515
batch 52: loss=0.334
batch 53: loss=0.690
batch 54: loss=0.980
batch 55: loss=0.922
batch 56: loss=0.515
batch 57: loss=0.434
batch 58: loss=0.548
batch 59: loss=0.756
batch 60: loss=0.572
batch 61: loss=0.585
batch 62: loss=0.664
batch 63: loss=0.340
batch 64: loss=0.663
batch 65: loss=0.655
batch 66: loss=0.839
batch 67: loss=0.676
batch 68: loss=0.647
batch 69: loss=0.364
batch 70: loss=0.593
batch 71: loss=0.511
batch 72: loss=0.400
batch 73: loss=0.634
batch 74: loss=0.416
batch 75: loss=0.760
batch 76: loss=0.486
batch 77: loss=0.806
batch 78: loss=0.644
batch 79: loss=0.641
batch 80: loss=0.479
batch 81: loss=0.586
batch 82: loss=0.520
Testing on validation set
acc=0.716
Training epoch 81
batch 1: loss=0.488
batch 2: loss=0.893
batch 3: loss=0.365
batch 4: loss=0.763
```

batch 5: loss=0.453
batch 6: loss=0.437
batch 7: loss=0.363
batch 8: loss=0.571
batch 9: loss=0.416
batch 10: loss=0.487
batch 11: loss=0.510
batch 12: loss=0.447
batch 13: loss=0.858
batch 14: loss=0.700
batch 15: loss=0.433
batch 16: loss=0.443
batch 17: loss=0.495
batch 18: loss=0.556
batch 19: loss=0.385
batch 20: loss=0.562
batch 21: loss=0.732
batch 22: loss=0.519
batch 23: loss=0.575
batch 24: loss=0.321
batch 25: loss=0.411
batch 26: loss=0.576
batch 27: loss=0.599
batch 28: loss=0.484
batch 29: loss=0.539
batch 30: loss=0.513
batch 31: loss=0.457
batch 32: loss=0.724
batch 33: loss=0.380
batch 34: loss=0.900
batch 35: loss=0.636
batch 36: loss=0.682
batch 37: loss=0.708
batch 38: loss=0.757
batch 39: loss=0.769
batch 40: loss=0.531
batch 41: loss=0.600
batch 42: loss=0.413
batch 43: loss=0.459
batch 44: loss=0.342
batch 45: loss=0.445
batch 46: loss=0.571
batch 47: loss=0.380
batch 48: loss=0.304
batch 49: loss=0.514
batch 50: loss=0.582
batch 51: loss=0.796
batch 52: loss=0.447

batch 53: loss=0.574
batch 54: loss=0.606
batch 55: loss=0.713
batch 56: loss=0.427
batch 57: loss=0.875
batch 58: loss=0.380
batch 59: loss=0.470
batch 60: loss=0.352
batch 61: loss=0.618
batch 62: loss=0.552
batch 63: loss=0.504
batch 64: loss=0.416
batch 65: loss=0.607
batch 66: loss=0.291
batch 67: loss=0.533
batch 68: loss=0.372
batch 69: loss=0.673
batch 70: loss=0.481
batch 71: loss=0.636
batch 72: loss=0.491
batch 73: loss=0.415
batch 74: loss=0.923
batch 75: loss=0.373
batch 76: loss=0.463
batch 77: loss=0.399
batch 78: loss=0.251
batch 79: loss=0.476
batch 80: loss=0.624
batch 81: loss=0.324
batch 82: loss=0.687

Testing on validation set
acc=0.732

Training epoch 82

batch 1: loss=0.423
batch 2: loss=0.590
batch 3: loss=0.360
batch 4: loss=0.365
batch 5: loss=0.822
batch 6: loss=0.403
batch 7: loss=0.909
batch 8: loss=0.898
batch 9: loss=0.552
batch 10: loss=0.659
batch 11: loss=0.628
batch 12: loss=0.338
batch 13: loss=0.367
batch 14: loss=0.677
batch 15: loss=0.484

batch 16: loss=0.579
batch 17: loss=0.431
batch 18: loss=0.433
batch 19: loss=0.774
batch 20: loss=0.757
batch 21: loss=0.517
batch 22: loss=0.592
batch 23: loss=0.564
batch 24: loss=0.683
batch 25: loss=0.689
batch 26: loss=0.464
batch 27: loss=0.456
batch 28: loss=0.732
batch 29: loss=0.371
batch 30: loss=0.566
batch 31: loss=0.609
batch 32: loss=0.601
batch 33: loss=0.461
batch 34: loss=0.443
batch 35: loss=0.643
batch 36: loss=0.501
batch 37: loss=0.493
batch 38: loss=0.693
batch 39: loss=0.589
batch 40: loss=0.755
batch 41: loss=0.447
batch 42: loss=0.483
batch 43: loss=0.385
batch 44: loss=0.709
batch 45: loss=0.413
batch 46: loss=0.485
batch 47: loss=0.406
batch 48: loss=0.620
batch 49: loss=0.845
batch 50: loss=0.536
batch 51: loss=0.747
batch 52: loss=0.258
batch 53: loss=0.547
batch 54: loss=0.532
batch 55: loss=0.580
batch 56: loss=0.392
batch 57: loss=0.464
batch 58: loss=0.495
batch 59: loss=0.514
batch 60: loss=0.793
batch 61: loss=0.371
batch 62: loss=0.536
batch 63: loss=0.541


```
batch 64: loss=0.327
batch 65: loss=0.324
batch 66: loss=0.447
batch 67: loss=0.573
batch 68: loss=0.730
batch 69: loss=0.815
batch 70: loss=0.621
batch 71: loss=0.648
batch 72: loss=0.623
batch 73: loss=0.492
batch 74: loss=0.580
batch 75: loss=0.703
batch 76: loss=0.526
batch 77: loss=0.695
batch 78: loss=0.760
batch 79: loss=0.793
batch 80: loss=0.494
batch 81: loss=0.806
batch 82: loss=0.784
Testing on validation set
acc=0.721
```

Training epoch 83

```
batch 1: loss=0.429
batch 2: loss=0.667
batch 3: loss=0.732
batch 4: loss=0.407
batch 5: loss=0.534
batch 6: loss=0.271
batch 7: loss=0.456
batch 8: loss=0.850
batch 9: loss=0.465
batch 10: loss=0.565
batch 11: loss=0.427
batch 12: loss=0.766
batch 13: loss=0.473
batch 14: loss=0.871
batch 15: loss=0.421
batch 16: loss=0.655
batch 17: loss=0.478
batch 18: loss=0.691
batch 19: loss=0.664
batch 20: loss=0.550
batch 21: loss=0.420
batch 22: loss=0.318
batch 23: loss=0.354
batch 24: loss=0.401
batch 25: loss=0.517
batch 26: loss=0.470
```

batch 27: loss=0.707
batch 28: loss=0.674
batch 29: loss=0.530
batch 30: loss=0.689
batch 31: loss=0.936
batch 32: loss=0.562
batch 33: loss=0.623
batch 34: loss=0.599
batch 35: loss=0.231
batch 36: loss=0.572
batch 37: loss=0.574
batch 38: loss=0.394
batch 39: loss=0.492
batch 40: loss=1.018
batch 41: loss=0.575
batch 42: loss=0.485
batch 43: loss=0.308
batch 44: loss=0.496
batch 45: loss=0.499
batch 46: loss=0.423
batch 47: loss=0.757
batch 48: loss=0.685
batch 49: loss=0.676
batch 50: loss=0.543
batch 51: loss=0.387
batch 52: loss=0.647
batch 53: loss=0.394
batch 54: loss=0.465
batch 55: loss=0.686
batch 56: loss=0.657
batch 57: loss=0.448
batch 58: loss=0.615
batch 59: loss=0.717
batch 60: loss=0.457
batch 61: loss=0.395
batch 62: loss=0.500
batch 63: loss=0.351
batch 64: loss=0.559
batch 65: loss=0.481
batch 66: loss=0.407
batch 67: loss=0.536
batch 68: loss=0.763
batch 69: loss=0.670
batch 70: loss=0.538
batch 71: loss=0.475
batch 72: loss=0.447
batch 73: loss=0.569
batch 74: loss=0.491

```
batch 75: loss=0.585
batch 76: loss=0.754
batch 77: loss=0.516
batch 78: loss=0.837
batch 79: loss=0.371
batch 80: loss=0.674
batch 81: loss=0.568
batch 82: loss=0.632
Testing on validation set
acc=0.729
```

Training epoch 84

```
batch 1: loss=0.361
batch 2: loss=0.505
batch 3: loss=0.571
batch 4: loss=0.631
batch 5: loss=0.677
batch 6: loss=0.499
batch 7: loss=0.675
batch 8: loss=0.527
batch 9: loss=0.484
batch 10: loss=0.468
batch 11: loss=0.625
batch 12: loss=0.631
batch 13: loss=0.604
batch 14: loss=0.790
batch 15: loss=0.624
batch 16: loss=0.663
batch 17: loss=0.486
batch 18: loss=0.504
batch 19: loss=0.568
batch 20: loss=0.538
batch 21: loss=0.353
batch 22: loss=0.472
batch 23: loss=0.320
batch 24: loss=0.557
batch 25: loss=0.490
batch 26: loss=0.393
batch 27: loss=0.634
batch 28: loss=0.648
batch 29: loss=0.611
batch 30: loss=0.570
batch 31: loss=0.343
batch 32: loss=0.601
batch 33: loss=0.569
batch 34: loss=0.425
batch 35: loss=0.576
batch 36: loss=0.366
batch 37: loss=0.621
```

```
batch 38: loss=0.438
batch 39: loss=0.493
batch 40: loss=0.526
batch 41: loss=0.504
batch 42: loss=0.399
batch 43: loss=0.286
batch 44: loss=0.408
batch 45: loss=0.252
batch 46: loss=0.572
batch 47: loss=0.687
batch 48: loss=0.385
batch 49: loss=0.491
batch 50: loss=0.410
batch 51: loss=0.568
batch 52: loss=0.659
batch 53: loss=0.492
batch 54: loss=0.553
batch 55: loss=0.525
batch 56: loss=0.600
batch 57: loss=0.584
batch 58: loss=0.478
batch 59: loss=0.562
batch 60: loss=0.587
batch 61: loss=0.472
batch 62: loss=0.717
batch 63: loss=0.539
batch 64: loss=0.373
batch 65: loss=0.558
batch 66: loss=0.463
batch 67: loss=0.610
batch 68: loss=0.356
batch 69: loss=0.586
batch 70: loss=0.611
batch 71: loss=0.716
batch 72: loss=0.674
batch 73: loss=0.501
batch 74: loss=0.387
batch 75: loss=0.560
batch 76: loss=0.557
batch 77: loss=0.719
batch 78: loss=0.794
batch 79: loss=0.490
batch 80: loss=0.494
batch 81: loss=0.904
batch 82: loss=0.546
Testing on validation set
acc=0.714
Training epoch 85
```

batch 1: loss=0.478
batch 2: loss=0.646
batch 3: loss=0.689
batch 4: loss=0.425
batch 5: loss=0.586
batch 6: loss=0.418
batch 7: loss=0.426
batch 8: loss=0.453
batch 9: loss=0.629
batch 10: loss=0.508
batch 11: loss=0.570
batch 12: loss=0.485
batch 13: loss=0.411
batch 14: loss=0.423
batch 15: loss=0.451
batch 16: loss=0.448
batch 17: loss=0.615
batch 18: loss=0.474
batch 19: loss=0.474
batch 20: loss=0.817
batch 21: loss=0.405
batch 22: loss=0.679
batch 23: loss=0.415
batch 24: loss=0.758
batch 25: loss=0.404
batch 26: loss=0.482
batch 27: loss=0.386
batch 28: loss=0.476
batch 29: loss=0.249
batch 30: loss=0.794
batch 31: loss=0.570
batch 32: loss=0.253
batch 33: loss=0.888
batch 34: loss=0.362
batch 35: loss=0.642
batch 36: loss=0.836
batch 37: loss=0.664
batch 38: loss=0.582
batch 39: loss=0.576
batch 40: loss=0.711
batch 41: loss=0.587
batch 42: loss=0.269
batch 43: loss=0.470
batch 44: loss=0.729
batch 45: loss=0.661
batch 46: loss=0.368
batch 47: loss=0.605
batch 48: loss=0.572

batch 49: loss=0.360
batch 50: loss=0.781
batch 51: loss=0.571
batch 52: loss=0.712
batch 53: loss=0.569
batch 54: loss=0.328
batch 55: loss=0.450
batch 56: loss=0.848
batch 57: loss=0.554
batch 58: loss=0.466
batch 59: loss=0.509
batch 60: loss=0.547
batch 61: loss=0.313
batch 62: loss=0.494
batch 63: loss=0.567
batch 64: loss=0.304
batch 65: loss=0.408
batch 66: loss=0.429
batch 67: loss=0.649
batch 68: loss=0.734
batch 69: loss=0.550
batch 70: loss=0.366
batch 71: loss=0.311
batch 72: loss=0.329
batch 73: loss=0.574
batch 74: loss=0.675
batch 75: loss=0.414
batch 76: loss=1.008
batch 77: loss=0.377
batch 78: loss=0.526
batch 79: loss=0.560
batch 80: loss=0.377
batch 81: loss=0.521
batch 82: loss=0.535

Testing on validation set

acc=0.725

Training epoch 86

batch 1: loss=0.247
batch 2: loss=0.694
batch 3: loss=0.409
batch 4: loss=0.399
batch 5: loss=0.464
batch 6: loss=0.583
batch 7: loss=0.718
batch 8: loss=0.455
batch 9: loss=0.678
batch 10: loss=0.475
batch 11: loss=0.472

batch 12: loss=0.719
batch 13: loss=0.471
batch 14: loss=0.534
batch 15: loss=0.515
batch 16: loss=0.606
batch 17: loss=0.493
batch 18: loss=0.355
batch 19: loss=0.561
batch 20: loss=0.457
batch 21: loss=0.568
batch 22: loss=0.557
batch 23: loss=0.294
batch 24: loss=0.477
batch 25: loss=0.550
batch 26: loss=0.418
batch 27: loss=0.490
batch 28: loss=0.443
batch 29: loss=0.286
batch 30: loss=0.893
batch 31: loss=0.432
batch 32: loss=0.399
batch 33: loss=0.584
batch 34: loss=0.521
batch 35: loss=0.507
batch 36: loss=0.435
batch 37: loss=0.261
batch 38: loss=0.543
batch 39: loss=0.285
batch 40: loss=0.461
batch 41: loss=0.913
batch 42: loss=0.581
batch 43: loss=0.795
batch 44: loss=0.623
batch 45: loss=0.505
batch 46: loss=0.506
batch 47: loss=0.521
batch 48: loss=0.394
batch 49: loss=0.598
batch 50: loss=0.500
batch 51: loss=0.346
batch 52: loss=0.609
batch 53: loss=0.966
batch 54: loss=0.395
batch 55: loss=0.452
batch 56: loss=0.467
batch 57: loss=0.669
batch 58: loss=0.784
batch 59: loss=0.558

```
batch 60: loss=0.622
batch 61: loss=0.639
batch 62: loss=0.676
batch 63: loss=0.701
batch 64: loss=0.614
batch 65: loss=0.680
batch 66: loss=0.500
batch 67: loss=0.605
batch 68: loss=0.585
batch 69: loss=0.425
batch 70: loss=0.737
batch 71: loss=0.585
batch 72: loss=0.528
batch 73: loss=0.625
batch 74: loss=0.388
batch 75: loss=0.498
batch 76: loss=0.398
batch 77: loss=0.736
batch 78: loss=0.910
batch 79: loss=0.665
batch 80: loss=0.709
batch 81: loss=0.546
batch 82: loss=0.502
```

```
Testing on validation set
acc=0.720
```

```
Training epoch 87
```

```
batch 1: loss=0.218
batch 2: loss=0.252
batch 3: loss=0.369
batch 4: loss=0.685
batch 5: loss=0.853
batch 6: loss=0.466
batch 7: loss=0.384
batch 8: loss=0.305
batch 9: loss=0.469
batch 10: loss=0.716
batch 11: loss=0.480
batch 12: loss=0.493
batch 13: loss=0.401
batch 14: loss=0.617
batch 15: loss=0.602
batch 16: loss=0.347
batch 17: loss=0.453
batch 18: loss=0.281
batch 19: loss=0.601
batch 20: loss=0.517
batch 21: loss=0.627
batch 22: loss=0.542
```


batch 23: loss=0.425
batch 24: loss=0.461
batch 25: loss=0.409
batch 26: loss=0.276
batch 27: loss=0.441
batch 28: loss=0.435
batch 29: loss=0.623
batch 30: loss=0.448
batch 31: loss=0.623
batch 32: loss=0.665
batch 33: loss=0.652
batch 34: loss=0.437
batch 35: loss=0.643
batch 36: loss=0.473
batch 37: loss=0.489
batch 38: loss=0.706
batch 39: loss=0.446
batch 40: loss=0.310
batch 41: loss=0.878
batch 42: loss=0.458
batch 43: loss=0.538
batch 44: loss=0.357
batch 45: loss=0.576
batch 46: loss=0.419
batch 47: loss=0.758
batch 48: loss=0.192
batch 49: loss=0.454
batch 50: loss=0.476
batch 51: loss=0.597
batch 52: loss=0.340
batch 53: loss=0.307
batch 54: loss=0.583
batch 55: loss=0.394
batch 56: loss=0.441
batch 57: loss=0.701
batch 58: loss=0.256
batch 59: loss=0.493
batch 60: loss=0.580
batch 61: loss=0.438
batch 62: loss=0.572
batch 63: loss=0.452
batch 64: loss=0.449
batch 65: loss=0.496
batch 66: loss=0.624
batch 67: loss=0.818
batch 68: loss=0.452
batch 69: loss=0.416
batch 70: loss=0.483

```
batch 71: loss=0.438
batch 72: loss=0.745
batch 73: loss=0.596
batch 74: loss=0.416
batch 75: loss=0.696
batch 76: loss=0.308
batch 77: loss=0.828
batch 78: loss=0.454
batch 79: loss=0.795
batch 80: loss=0.578
batch 81: loss=0.733
batch 82: loss=0.404
Testing on validation set
acc=0.715
```

Training epoch 88

```
batch 1: loss=0.368
batch 2: loss=0.957
batch 3: loss=0.536
batch 4: loss=0.454
batch 5: loss=0.450
batch 6: loss=0.788
batch 7: loss=0.461
batch 8: loss=0.533
batch 9: loss=0.390
batch 10: loss=0.494
batch 11: loss=0.567
batch 12: loss=0.550
batch 13: loss=0.749
batch 14: loss=0.567
batch 15: loss=0.543
batch 16: loss=0.363
batch 17: loss=0.534
batch 18: loss=0.659
batch 19: loss=0.545
batch 20: loss=0.601
batch 21: loss=0.524
batch 22: loss=0.522
batch 23: loss=0.679
batch 24: loss=0.451
batch 25: loss=0.308
batch 26: loss=0.382
batch 27: loss=0.551
batch 28: loss=0.560
batch 29: loss=0.375
batch 30: loss=0.259
batch 31: loss=0.428
batch 32: loss=0.515
batch 33: loss=0.591
```

batch 34: loss=0.344
batch 35: loss=0.643
batch 36: loss=0.650
batch 37: loss=0.573
batch 38: loss=0.528
batch 39: loss=0.291
batch 40: loss=0.675
batch 41: loss=0.552
batch 42: loss=0.519
batch 43: loss=0.488
batch 44: loss=0.328
batch 45: loss=0.475
batch 46: loss=0.827
batch 47: loss=0.443
batch 48: loss=0.739
batch 49: loss=0.357
batch 50: loss=0.278
batch 51: loss=0.612
batch 52: loss=0.652
batch 53: loss=0.324
batch 54: loss=0.550
batch 55: loss=0.840
batch 56: loss=0.538
batch 57: loss=0.481
batch 58: loss=0.357
batch 59: loss=0.596
batch 60: loss=0.458
batch 61: loss=0.250
batch 62: loss=0.522
batch 63: loss=0.496
batch 64: loss=0.526
batch 65: loss=0.674
batch 66: loss=0.661
batch 67: loss=0.574
batch 68: loss=0.312
batch 69: loss=0.435
batch 70: loss=0.501
batch 71: loss=0.394
batch 72: loss=0.404
batch 73: loss=0.932
batch 74: loss=0.587
batch 75: loss=0.647
batch 76: loss=0.469
batch 77: loss=0.294
batch 78: loss=0.260
batch 79: loss=0.335
batch 80: loss=0.620
batch 81: loss=0.361

batch 82: loss=0.149
Testing on validation set
acc=0.731

Training epoch 89

batch 1: loss=0.280
batch 2: loss=0.371
batch 3: loss=0.348
batch 4: loss=0.404
batch 5: loss=0.629
batch 6: loss=0.432
batch 7: loss=0.607
batch 8: loss=0.679
batch 9: loss=0.210
batch 10: loss=0.511
batch 11: loss=0.526
batch 12: loss=0.356
batch 13: loss=0.298
batch 14: loss=0.310
batch 15: loss=0.490
batch 16: loss=0.331
batch 17: loss=0.726
batch 18: loss=0.611
batch 19: loss=0.581
batch 20: loss=0.519
batch 21: loss=0.768
batch 22: loss=0.542
batch 23: loss=0.459
batch 24: loss=0.264
batch 25: loss=0.524
batch 26: loss=0.429
batch 27: loss=0.693
batch 28: loss=0.416
batch 29: loss=0.559
batch 30: loss=0.433
batch 31: loss=0.222
batch 32: loss=0.347
batch 33: loss=0.539
batch 34: loss=0.458
batch 35: loss=0.421
batch 36: loss=0.503
batch 37: loss=0.594
batch 38: loss=0.639
batch 39: loss=0.483
batch 40: loss=0.799
batch 41: loss=0.571
batch 42: loss=0.428
batch 43: loss=0.756
batch 44: loss=0.408

```
batch 45: loss=0.484
batch 46: loss=0.658
batch 47: loss=0.747
batch 48: loss=0.584
batch 49: loss=0.463
batch 50: loss=0.518
batch 51: loss=0.651
batch 52: loss=0.391
batch 53: loss=0.434
batch 54: loss=0.664
batch 55: loss=0.217
batch 56: loss=0.443
batch 57: loss=0.568
batch 58: loss=0.509
batch 59: loss=0.503
batch 60: loss=0.562
batch 61: loss=0.567
batch 62: loss=0.511
batch 63: loss=0.637
batch 64: loss=0.543
batch 65: loss=0.851
batch 66: loss=0.414
batch 67: loss=0.427
batch 68: loss=0.459
batch 69: loss=0.637
batch 70: loss=0.542
batch 71: loss=0.348
batch 72: loss=0.257
batch 73: loss=0.620
batch 74: loss=0.372
batch 75: loss=0.436
batch 76: loss=0.280
batch 77: loss=0.428
batch 78: loss=0.780
batch 79: loss=0.375
batch 80: loss=0.357
batch 81: loss=0.512
batch 82: loss=0.833
Testing on validation set
acc=0.730
Training epoch 90
batch 1: loss=0.335
batch 2: loss=0.402
batch 3: loss=0.350
batch 4: loss=0.384
batch 5: loss=0.392
batch 6: loss=0.614
batch 7: loss=0.429
```

batch 8: loss=0.466
batch 9: loss=0.463
batch 10: loss=0.425
batch 11: loss=0.465
batch 12: loss=0.598
batch 13: loss=0.568
batch 14: loss=0.522
batch 15: loss=0.377
batch 16: loss=0.504
batch 17: loss=0.676
batch 18: loss=0.656
batch 19: loss=0.313
batch 20: loss=0.465
batch 21: loss=0.433
batch 22: loss=0.420
batch 23: loss=0.447
batch 24: loss=0.280
batch 25: loss=0.330
batch 26: loss=0.618
batch 27: loss=0.471
batch 28: loss=0.449
batch 29: loss=0.370
batch 30: loss=0.248
batch 31: loss=0.380
batch 32: loss=0.469
batch 33: loss=0.379
batch 34: loss=0.210
batch 35: loss=0.676
batch 36: loss=0.504
batch 37: loss=0.458
batch 38: loss=0.533
batch 39: loss=0.326
batch 40: loss=0.501
batch 41: loss=0.473
batch 42: loss=0.841
batch 43: loss=0.804
batch 44: loss=0.486
batch 45: loss=0.278
batch 46: loss=0.518
batch 47: loss=0.499
batch 48: loss=1.009
batch 49: loss=0.397
batch 50: loss=0.434
batch 51: loss=0.730
batch 52: loss=0.441
batch 53: loss=0.579
batch 54: loss=0.470
batch 55: loss=0.547

batch 56: loss=0.412
batch 57: loss=0.483
batch 58: loss=0.343
batch 59: loss=0.400
batch 60: loss=0.333
batch 61: loss=0.555
batch 62: loss=0.690
batch 63: loss=0.435
batch 64: loss=0.498
batch 65: loss=0.448
batch 66: loss=0.474
batch 67: loss=0.355
batch 68: loss=0.412
batch 69: loss=0.754
batch 70: loss=0.263
batch 71: loss=0.572
batch 72: loss=0.546
batch 73: loss=0.618
batch 74: loss=0.935
batch 75: loss=0.367
batch 76: loss=0.450
batch 77: loss=0.384
batch 78: loss=0.494
batch 79: loss=0.469
batch 80: loss=0.319
batch 81: loss=0.265
batch 82: loss=0.341

Testing on validation set
acc=0.718

Training epoch 91

batch 1: loss=0.561
batch 2: loss=0.739
batch 3: loss=0.374
batch 4: loss=0.471
batch 5: loss=0.510
batch 6: loss=0.701
batch 7: loss=0.384
batch 8: loss=0.357
batch 9: loss=0.502
batch 10: loss=0.720
batch 11: loss=0.503
batch 12: loss=0.509
batch 13: loss=0.458
batch 14: loss=0.408
batch 15: loss=0.575
batch 16: loss=0.580
batch 17: loss=0.517
batch 18: loss=0.651

batch 19: loss=0.570
batch 20: loss=0.631
batch 21: loss=0.570
batch 22: loss=0.631
batch 23: loss=0.444
batch 24: loss=0.214
batch 25: loss=0.324
batch 26: loss=0.504
batch 27: loss=0.528
batch 28: loss=0.509
batch 29: loss=0.664
batch 30: loss=0.467
batch 31: loss=0.509
batch 32: loss=0.270
batch 33: loss=0.493
batch 34: loss=0.552
batch 35: loss=0.603
batch 36: loss=0.418
batch 37: loss=0.397
batch 38: loss=0.412
batch 39: loss=0.244
batch 40: loss=0.699
batch 41: loss=0.564
batch 42: loss=0.395
batch 43: loss=0.532
batch 44: loss=0.362
batch 45: loss=0.328
batch 46: loss=0.544
batch 47: loss=0.496
batch 48: loss=0.462
batch 49: loss=0.470
batch 50: loss=0.709
batch 51: loss=0.494
batch 52: loss=0.633
batch 53: loss=0.490
batch 54: loss=0.575
batch 55: loss=0.445
batch 56: loss=0.552
batch 57: loss=0.436
batch 58: loss=0.446
batch 59: loss=0.454
batch 60: loss=0.290
batch 61: loss=0.550
batch 62: loss=0.563
batch 63: loss=0.521
batch 64: loss=0.512
batch 65: loss=0.507
batch 66: loss=0.374

batch 67: loss=0.564
batch 68: loss=0.388
batch 69: loss=0.573
batch 70: loss=1.000
batch 71: loss=0.421
batch 72: loss=0.888
batch 73: loss=0.608
batch 74: loss=0.635
batch 75: loss=0.407
batch 76: loss=0.296
batch 77: loss=0.378
batch 78: loss=0.661
batch 79: loss=0.430
batch 80: loss=0.467
batch 81: loss=0.522
batch 82: loss=0.623

Testing on validation set
acc=0.725

Training epoch 92

batch 1: loss=0.469
batch 2: loss=0.548
batch 3: loss=0.300
batch 4: loss=0.410
batch 5: loss=0.470
batch 6: loss=0.693
batch 7: loss=0.714
batch 8: loss=0.639
batch 9: loss=0.659
batch 10: loss=0.477
batch 11: loss=0.405
batch 12: loss=0.609
batch 13: loss=0.761
batch 14: loss=0.493
batch 15: loss=0.288
batch 16: loss=0.170
batch 17: loss=0.881
batch 18: loss=0.605
batch 19: loss=0.534
batch 20: loss=0.374
batch 21: loss=0.468
batch 22: loss=0.414
batch 23: loss=0.529
batch 24: loss=0.484
batch 25: loss=0.444
batch 26: loss=0.248
batch 27: loss=0.240
batch 28: loss=0.539
batch 29: loss=0.574

batch 30: loss=0.360
batch 31: loss=0.437
batch 32: loss=0.582
batch 33: loss=0.475
batch 34: loss=0.460
batch 35: loss=0.375
batch 36: loss=0.648
batch 37: loss=0.678
batch 38: loss=0.829
batch 39: loss=0.349
batch 40: loss=0.415
batch 41: loss=0.500
batch 42: loss=0.377
batch 43: loss=0.442
batch 44: loss=0.422
batch 45: loss=0.393
batch 46: loss=0.485
batch 47: loss=0.329
batch 48: loss=0.422
batch 49: loss=0.438
batch 50: loss=0.474
batch 51: loss=0.469
batch 52: loss=0.216
batch 53: loss=0.584
batch 54: loss=0.505
batch 55: loss=0.195
batch 56: loss=0.599
batch 57: loss=0.720
batch 58: loss=0.702
batch 59: loss=0.467
batch 60: loss=0.831
batch 61: loss=0.354
batch 62: loss=0.717
batch 63: loss=0.565
batch 64: loss=0.359
batch 65: loss=0.504
batch 66: loss=0.744
batch 67: loss=0.230
batch 68: loss=0.391
batch 69: loss=0.621
batch 70: loss=0.609
batch 71: loss=0.459
batch 72: loss=0.573
batch 73: loss=0.391
batch 74: loss=0.536
batch 75: loss=0.501
batch 76: loss=0.498
batch 77: loss=0.578

batch 78: loss=0.578
batch 79: loss=0.456
batch 80: loss=0.619
batch 81: loss=0.311
batch 82: loss=0.201
Testing on validation set
acc=0.724

Training epoch 93

batch 1: loss=0.299
batch 2: loss=0.482
batch 3: loss=0.468
batch 4: loss=0.261
batch 5: loss=0.681
batch 6: loss=0.408
batch 7: loss=0.289
batch 8: loss=0.203
batch 9: loss=0.601
batch 10: loss=0.260
batch 11: loss=0.439
batch 12: loss=0.399
batch 13: loss=0.621
batch 14: loss=0.507
batch 15: loss=0.561
batch 16: loss=0.442
batch 17: loss=0.506
batch 18: loss=0.502
batch 19: loss=0.461
batch 20: loss=0.355
batch 21: loss=0.596
batch 22: loss=0.396
batch 23: loss=0.328
batch 24: loss=0.331
batch 25: loss=0.378
batch 26: loss=0.491
batch 27: loss=0.429
batch 28: loss=0.590
batch 29: loss=0.628
batch 30: loss=0.399
batch 31: loss=0.219
batch 32: loss=0.824
batch 33: loss=0.847
batch 34: loss=0.403
batch 35: loss=0.436
batch 36: loss=0.341
batch 37: loss=0.416
batch 38: loss=0.521
batch 39: loss=0.383
batch 40: loss=0.481

```
batch 41: loss=0.389
batch 42: loss=0.499
batch 43: loss=0.521
batch 44: loss=0.439
batch 45: loss=0.559
batch 46: loss=0.375
batch 47: loss=0.477
batch 48: loss=0.823
batch 49: loss=0.445
batch 50: loss=0.514
batch 51: loss=0.582
batch 52: loss=0.206
batch 53: loss=0.397
batch 54: loss=0.539
batch 55: loss=0.530
batch 56: loss=0.481
batch 57: loss=0.470
batch 58: loss=0.703
batch 59: loss=0.385
batch 60: loss=0.349
batch 61: loss=0.299
batch 62: loss=0.331
batch 63: loss=0.663
batch 64: loss=0.415
batch 65: loss=0.437
batch 66: loss=0.374
batch 67: loss=0.624
batch 68: loss=0.646
batch 69: loss=0.508
batch 70: loss=0.240
batch 71: loss=0.592
batch 72: loss=0.841
batch 73: loss=0.450
batch 74: loss=0.450
batch 75: loss=0.475
batch 76: loss=0.524
batch 77: loss=0.466
batch 78: loss=0.568
batch 79: loss=0.343
batch 80: loss=0.566
batch 81: loss=0.670
batch 82: loss=0.867
Testing on validation set
acc=0.724
Training epoch 94
batch 1: loss=0.449
batch 2: loss=0.372
batch 3: loss=0.452
```

batch 4: loss=0.297
batch 5: loss=0.410
batch 6: loss=0.539
batch 7: loss=0.514
batch 8: loss=0.318
batch 9: loss=0.247
batch 10: loss=0.451
batch 11: loss=0.398
batch 12: loss=0.392
batch 13: loss=0.495
batch 14: loss=0.691
batch 15: loss=0.474
batch 16: loss=0.582
batch 17: loss=0.517
batch 18: loss=0.606
batch 19: loss=0.602
batch 20: loss=0.632
batch 21: loss=0.382
batch 22: loss=0.663
batch 23: loss=0.464
batch 24: loss=0.491
batch 25: loss=0.479
batch 26: loss=0.611
batch 27: loss=0.317
batch 28: loss=0.504
batch 29: loss=0.435
batch 30: loss=0.439
batch 31: loss=0.286
batch 32: loss=0.502
batch 33: loss=0.498
batch 34: loss=0.511
batch 35: loss=0.318
batch 36: loss=0.735
batch 37: loss=0.377
batch 38: loss=0.507
batch 39: loss=0.667
batch 40: loss=0.485
batch 41: loss=0.474
batch 42: loss=0.574
batch 43: loss=0.524
batch 44: loss=0.790
batch 45: loss=0.389
batch 46: loss=0.660
batch 47: loss=0.258
batch 48: loss=0.533
batch 49: loss=0.484
batch 50: loss=0.539
batch 51: loss=0.504

```
batch 52: loss=0.472
batch 53: loss=0.155
batch 54: loss=0.421
batch 55: loss=0.414
batch 56: loss=0.394
batch 57: loss=0.562
batch 58: loss=0.387
batch 59: loss=0.354
batch 60: loss=0.334
batch 61: loss=0.239
batch 62: loss=0.354
batch 63: loss=0.500
batch 64: loss=0.379
batch 65: loss=0.325
batch 66: loss=0.584
batch 67: loss=0.446
batch 68: loss=0.507
batch 69: loss=0.643
batch 70: loss=0.463
batch 71: loss=0.378
batch 72: loss=0.400
batch 73: loss=0.595
batch 74: loss=0.525
batch 75: loss=0.748
batch 76: loss=0.465
batch 77: loss=0.517
batch 78: loss=0.678
batch 79: loss=0.602
batch 80: loss=0.613
batch 81: loss=0.645
batch 82: loss=0.241
Testing on validation set
acc=0.722
```

Training epoch 95

```
batch 1: loss=0.335
batch 2: loss=0.750
batch 3: loss=0.439
batch 4: loss=0.364
batch 5: loss=0.633
batch 6: loss=0.372
batch 7: loss=0.317
batch 8: loss=0.447
batch 9: loss=0.442
batch 10: loss=0.302
batch 11: loss=0.507
batch 12: loss=0.557
batch 13: loss=0.357
batch 14: loss=0.355
```

batch 15: loss=0.473
batch 16: loss=0.588
batch 17: loss=0.564
batch 18: loss=0.417
batch 19: loss=0.464
batch 20: loss=0.480
batch 21: loss=0.523
batch 22: loss=0.373
batch 23: loss=0.744
batch 24: loss=0.452
batch 25: loss=0.316
batch 26: loss=0.701
batch 27: loss=0.451
batch 28: loss=0.812
batch 29: loss=0.354
batch 30: loss=0.324
batch 31: loss=0.501
batch 32: loss=0.551
batch 33: loss=0.647
batch 34: loss=0.530
batch 35: loss=0.301
batch 36: loss=0.288
batch 37: loss=0.517
batch 38: loss=0.422
batch 39: loss=0.453
batch 40: loss=0.300
batch 41: loss=0.482
batch 42: loss=0.532
batch 43: loss=0.369
batch 44: loss=0.706
batch 45: loss=0.312
batch 46: loss=0.489
batch 47: loss=0.340
batch 48: loss=0.749
batch 49: loss=0.472
batch 50: loss=0.806
batch 51: loss=0.465
batch 52: loss=0.511
batch 53: loss=0.436
batch 54: loss=0.563
batch 55: loss=0.192
batch 56: loss=0.657
batch 57: loss=0.359
batch 58: loss=0.346
batch 59: loss=0.590
batch 60: loss=0.709
batch 61: loss=0.419
batch 62: loss=0.690

```
batch 63: loss=0.407
batch 64: loss=0.432
batch 65: loss=0.334
batch 66: loss=0.583
batch 67: loss=0.731
batch 68: loss=0.403
batch 69: loss=0.862
batch 70: loss=0.339
batch 71: loss=0.450
batch 72: loss=0.561
batch 73: loss=0.864
batch 74: loss=0.535
batch 75: loss=0.439
batch 76: loss=0.363
batch 77: loss=0.459
batch 78: loss=0.540
batch 79: loss=0.536
batch 80: loss=0.465
batch 81: loss=0.499
batch 82: loss=1.063
Testing on validation set
acc=0.714
```

Training epoch 96

```
batch 1: loss=0.822
batch 2: loss=0.392
batch 3: loss=0.459
batch 4: loss=0.433
batch 5: loss=0.660
batch 6: loss=0.465
batch 7: loss=0.456
batch 8: loss=0.581
batch 9: loss=0.555
batch 10: loss=0.495
batch 11: loss=0.428
batch 12: loss=0.405
batch 13: loss=0.768
batch 14: loss=0.500
batch 15: loss=0.590
batch 16: loss=0.507
batch 17: loss=0.464
batch 18: loss=0.506
batch 19: loss=0.478
batch 20: loss=0.286
batch 21: loss=0.341
batch 22: loss=0.435
batch 23: loss=0.434
batch 24: loss=0.326
batch 25: loss=0.412
```


batch 26: loss=0.370
batch 27: loss=0.454
batch 28: loss=0.278
batch 29: loss=0.644
batch 30: loss=0.592
batch 31: loss=0.469
batch 32: loss=0.562
batch 33: loss=0.525
batch 34: loss=0.416
batch 35: loss=0.481
batch 36: loss=0.346
batch 37: loss=0.367
batch 38: loss=0.390
batch 39: loss=0.335
batch 40: loss=0.281
batch 41: loss=0.606
batch 42: loss=0.525
batch 43: loss=0.322
batch 44: loss=0.385
batch 45: loss=0.470
batch 46: loss=0.426
batch 47: loss=0.576
batch 48: loss=0.444
batch 49: loss=0.707
batch 50: loss=0.367
batch 51: loss=0.258
batch 52: loss=0.599
batch 53: loss=0.256
batch 54: loss=0.409
batch 55: loss=0.504
batch 56: loss=0.649
batch 57: loss=0.265
batch 58: loss=0.299
batch 59: loss=0.339
batch 60: loss=0.455
batch 61: loss=0.425
batch 62: loss=0.382
batch 63: loss=0.657
batch 64: loss=0.570
batch 65: loss=0.286
batch 66: loss=0.378
batch 67: loss=0.350
batch 68: loss=0.299
batch 69: loss=0.612
batch 70: loss=0.464
batch 71: loss=0.569
batch 72: loss=0.458
batch 73: loss=0.483

batch 74: loss=0.459
batch 75: loss=0.371
batch 76: loss=0.622
batch 77: loss=0.287
batch 78: loss=0.435
batch 79: loss=0.546
batch 80: loss=0.501
batch 81: loss=0.474
batch 82: loss=0.509

Testing on validation set
acc=0.722

Training epoch 97

batch 1: loss=0.511
batch 2: loss=0.399
batch 3: loss=0.431
batch 4: loss=0.330
batch 5: loss=0.420
batch 6: loss=0.441
batch 7: loss=0.256
batch 8: loss=0.566
batch 9: loss=0.159
batch 10: loss=0.487
batch 11: loss=0.414
batch 12: loss=0.521
batch 13: loss=0.398
batch 14: loss=0.451
batch 15: loss=0.542
batch 16: loss=0.585
batch 17: loss=0.511
batch 18: loss=0.447
batch 19: loss=0.302
batch 20: loss=0.530
batch 21: loss=0.553
batch 22: loss=0.268
batch 23: loss=0.530
batch 24: loss=0.459
batch 25: loss=0.552
batch 26: loss=0.490
batch 27: loss=0.541
batch 28: loss=0.590
batch 29: loss=0.658
batch 30: loss=0.652
batch 31: loss=0.468
batch 32: loss=0.394
batch 33: loss=0.474
batch 34: loss=0.456
batch 35: loss=0.429
batch 36: loss=0.398

```
batch 37: loss=0.485
batch 38: loss=0.340
batch 39: loss=0.613
batch 40: loss=0.449
batch 41: loss=0.629
batch 42: loss=0.614
batch 43: loss=0.609
batch 44: loss=0.792
batch 45: loss=0.403
batch 46: loss=0.367
batch 47: loss=0.408
batch 48: loss=0.313
batch 49: loss=0.233
batch 50: loss=0.381
batch 51: loss=0.339
batch 52: loss=0.535
batch 53: loss=0.292
batch 54: loss=0.648
batch 55: loss=0.499
batch 56: loss=0.612
batch 57: loss=0.438
batch 58: loss=0.536
batch 59: loss=0.402
batch 60: loss=0.590
batch 61: loss=0.393
batch 62: loss=0.637
batch 63: loss=0.595
batch 64: loss=0.538
batch 65: loss=0.485
batch 66: loss=0.349
batch 67: loss=0.280
batch 68: loss=0.332
batch 69: loss=0.761
batch 70: loss=0.293
batch 71: loss=0.371
batch 72: loss=0.401
batch 73: loss=0.509
batch 74: loss=0.460
batch 75: loss=0.429
batch 76: loss=0.430
batch 77: loss=0.721
batch 78: loss=0.608
batch 79: loss=0.756
batch 80: loss=0.648
batch 81: loss=0.272
batch 82: loss=1.015
Testing on validation set
acc=0.709
```

Training epoch 98

batch	1:	loss=0.401
batch	2:	loss=0.477
batch	3:	loss=0.436
batch	4:	loss=0.364
batch	5:	loss=0.432
batch	6:	loss=0.327
batch	7:	loss=0.413
batch	8:	loss=0.590
batch	9:	loss=0.497
batch	10:	loss=0.200
batch	11:	loss=0.840
batch	12:	loss=0.533
batch	13:	loss=0.465
batch	14:	loss=0.340
batch	15:	loss=0.401
batch	16:	loss=0.474
batch	17:	loss=0.628
batch	18:	loss=0.267
batch	19:	loss=0.397
batch	20:	loss=0.606
batch	21:	loss=0.457
batch	22:	loss=0.294
batch	23:	loss=0.524
batch	24:	loss=0.585
batch	25:	loss=0.473
batch	26:	loss=0.434
batch	27:	loss=0.440
batch	28:	loss=0.263
batch	29:	loss=0.468
batch	30:	loss=0.461
batch	31:	loss=0.741
batch	32:	loss=0.526
batch	33:	loss=0.414
batch	34:	loss=0.342
batch	35:	loss=0.215
batch	36:	loss=0.281
batch	37:	loss=0.655
batch	38:	loss=0.686
batch	39:	loss=0.367
batch	40:	loss=0.353
batch	41:	loss=0.449
batch	42:	loss=0.482
batch	43:	loss=0.504
batch	44:	loss=0.411
batch	45:	loss=0.395
batch	46:	loss=0.475
batch	47:	loss=0.534

```
batch 48: loss=0.396
batch 49: loss=0.242
batch 50: loss=0.546
batch 51: loss=0.584
batch 52: loss=0.298
batch 53: loss=0.609
batch 54: loss=0.442
batch 55: loss=0.498
batch 56: loss=0.424
batch 57: loss=0.365
batch 58: loss=0.418
batch 59: loss=0.289
batch 60: loss=0.417
batch 61: loss=0.317
batch 62: loss=0.355
batch 63: loss=0.567
batch 64: loss=0.459
batch 65: loss=0.373
batch 66: loss=0.348
batch 67: loss=0.559
batch 68: loss=0.569
batch 69: loss=0.409
batch 70: loss=0.659
batch 71: loss=0.361
batch 72: loss=0.406
batch 73: loss=0.599
batch 74: loss=0.644
batch 75: loss=0.341
batch 76: loss=0.591
batch 77: loss=0.439
batch 78: loss=0.405
batch 79: loss=0.358
batch 80: loss=0.569
batch 81: loss=0.734
batch 82: loss=1.221
Testing on validation set
acc=0.722
```

Training epoch 99

```
batch 1: loss=0.424
batch 2: loss=0.453
batch 3: loss=0.598
batch 4: loss=0.368
batch 5: loss=0.530
batch 6: loss=0.356
batch 7: loss=0.588
batch 8: loss=0.558
batch 9: loss=0.890
batch 10: loss=0.588
```

batch 11: loss=0.359
batch 12: loss=0.547
batch 13: loss=0.479
batch 14: loss=0.411
batch 15: loss=0.419
batch 16: loss=0.372
batch 17: loss=0.454
batch 18: loss=0.383
batch 19: loss=0.454
batch 20: loss=0.536
batch 21: loss=0.516
batch 22: loss=0.552
batch 23: loss=0.294
batch 24: loss=0.400
batch 25: loss=0.756
batch 26: loss=0.454
batch 27: loss=0.873
batch 28: loss=0.313
batch 29: loss=0.449
batch 30: loss=0.271
batch 31: loss=0.602
batch 32: loss=0.587
batch 33: loss=0.437
batch 34: loss=0.452
batch 35: loss=0.399
batch 36: loss=0.386
batch 37: loss=0.529
batch 38: loss=0.572
batch 39: loss=0.505
batch 40: loss=0.232
batch 41: loss=0.457
batch 42: loss=0.408
batch 43: loss=0.519
batch 44: loss=0.478
batch 45: loss=0.503
batch 46: loss=0.513
batch 47: loss=0.523
batch 48: loss=0.660
batch 49: loss=0.537
batch 50: loss=0.330
batch 51: loss=0.257
batch 52: loss=0.515
batch 53: loss=0.329
batch 54: loss=0.467
batch 55: loss=0.690
batch 56: loss=0.520
batch 57: loss=0.265
batch 58: loss=0.535

```
batch 59: loss=0.347
batch 60: loss=0.410
batch 61: loss=0.533
batch 62: loss=0.551
batch 63: loss=0.294
batch 64: loss=0.387
batch 65: loss=0.369
batch 66: loss=0.349
batch 67: loss=0.538
batch 68: loss=0.746
batch 69: loss=0.222
batch 70: loss=0.526
batch 71: loss=0.394
batch 72: loss=0.471
batch 73: loss=0.679
batch 74: loss=0.442
batch 75: loss=0.518
batch 76: loss=0.644
batch 77: loss=0.469
batch 78: loss=0.495
batch 79: loss=0.471
batch 80: loss=0.849
batch 81: loss=0.372
batch 82: loss=0.611
Testing on validation set
acc=0.722
```

```
In [15]: test(args, raw_model, test_loader, device)

acc=0.732
```