

```
+ 코드 + 텍스트

▶ Model parameters are saved.
↗ Epoch 2 completed. Average Loss: 0.0179
↗ At epoch: 1 avg loss= 0.017886029489230938 Accuracy = 0.9046474358974359
Model parameters are saved.
Epoch 3 completed. Average Loss: 0.0082
At epoch: 2 avg loss= 0.00815716087750983 Accuracy = 0.9066506410256411
Model parameters are saved.
Epoch 4 completed. Average Loss: 0.0100
At epoch: 3 avg loss= 0.009956639685230747 Accuracy = 0.9026442307692307
Epoch 5 completed. Average Loss: 0.0085
At epoch: 4 avg loss= 0.008488177377447031 Accuracy = 0.9058493589743589
Epoch 6 completed. Average Loss: 0.0071
At epoch: 5 avg loss= 0.007106863751220935 Accuracy = 0.9038461538461539
Epoch 7 completed. Average Loss: 0.0065
At epoch: 6 avg loss= 0.006521507850639188 Accuracy = 0.9078525641025641
Model parameters are saved.
Epoch 8 completed. Average Loss: 0.0067
At epoch: 7 avg loss= 0.006743450078572959 Accuracy = 0.9046474358974359
Epoch 9 completed. Average Loss: 0.0065
At epoch: 8 avg loss= 0.006527621012467604 Accuracy = 0.905448717948718
Epoch 10 completed. Average Loss: 0.0065
At epoch: 9 avg loss= 0.006506744719025357 Accuracy = 0.9030448717948718
Epoch 11 completed. Average Loss: 0.0060
At epoch: 10 avg loss= 0.006006817367028233 Accuracy = 0.9030448717948718
Epoch 12 completed. Average Loss: 0.0030
At epoch: 11 avg loss= 0.0030055253171620932 Accuracy = 0.8926282051282052
Epoch 13 completed. Average Loss: 0.0039
At epoch: 12 avg loss= 0.0039144446298404285 Accuracy = 0.9038461538461539
Epoch 14 completed. Average Loss: 0.0053
At epoch: 13 avg loss= 0.005344548985587421 Accuracy = 0.9018429487179487
Training complete!
```

7번째 에포크(6 에포크)에서 코드의 자동 저장 기능을 통해 최적 모델로 저장되었다. 이전에도 실험을 여러 번 해서 7 에포크에 도달한 경우도 있었는데, 랜덤 시드 때문인지 이게 최적이었다.

```
[ ] y_part = y_part.numpy()

    for i in range(y_part.shape[0]):
        if preds_label[i] == y_part[i]:
            hit_cnt += 1
    total_cnt += len(y_part)
    acc = hit_cnt/total_cnt
    print("Test Loss = ", test_loss, "Test Accuracy = ", acc)
print("Program ends.")
```

<ipython-input-18-12d364405c64>:10: FutureWarning: You are using `torch.load` with `weights`
model.load_state_dict(torch.load('saved_weights.pt'))
Test Loss = 17.88809135183692 Test Accuracy = 0.9134615384615384
Program ends.

테스트 단계의 정확도는 괜찮게 나왔는데, 손실이 엄청나게 증가했다. 장기적으로는 모델의 분류 성능이 부족해질 가능성이 있다.