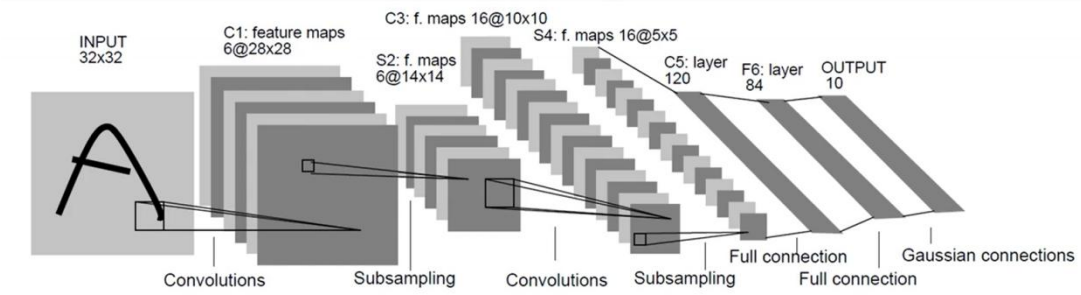
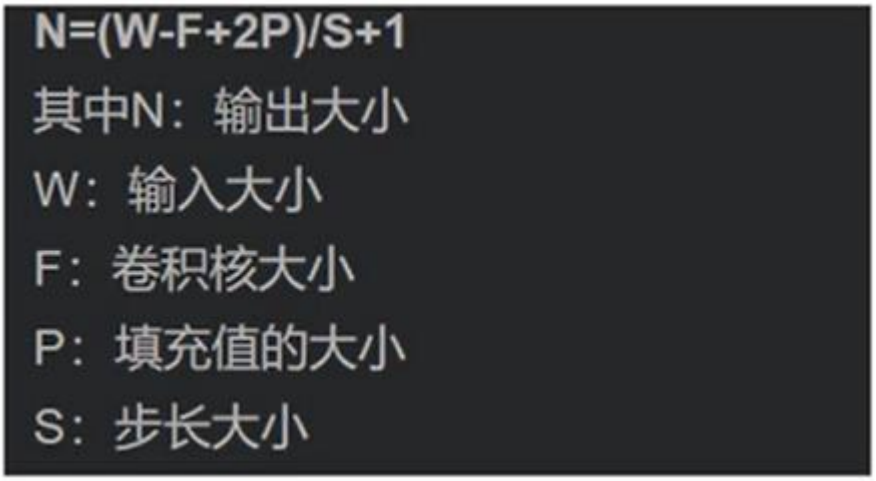
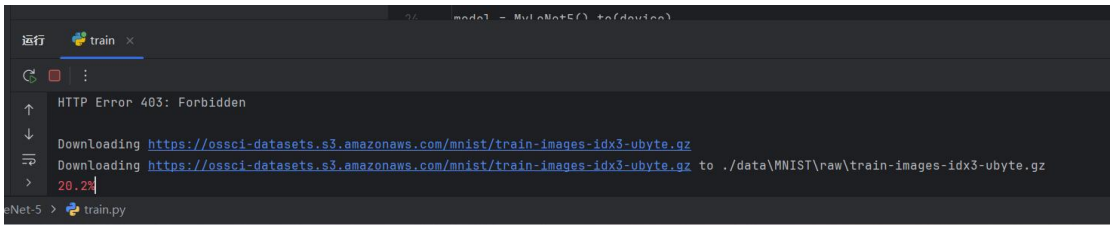
LeNet model

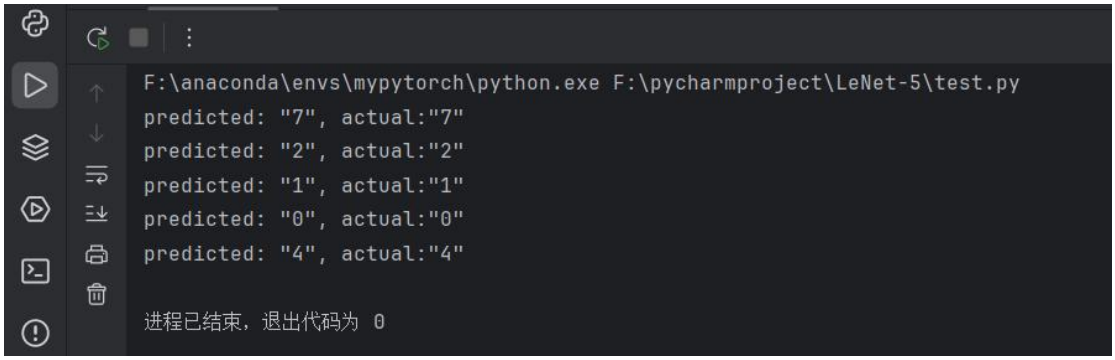
数字识别

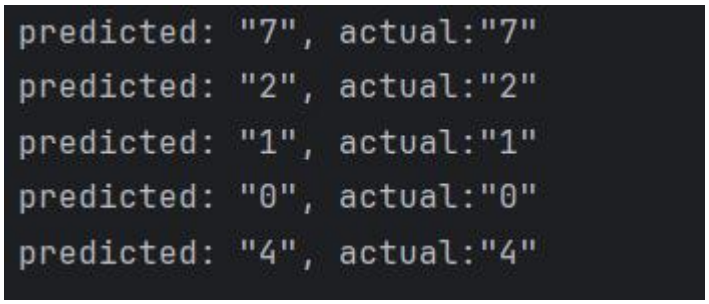






"F:\pycharmproject\LeNet-5\sava_model\best_model.pth"





跑通/问题：跑通

硬件平台：CPU 11th Gen Intel(R) Core(TM) i7-1165G7 @ 2.80GHz

软件环境：pytorch

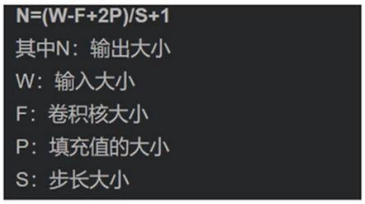
算法应用效果：数字识别

输入数据：

输入：灰度图像，通常是 32x32 像素的图像

N=（W-F+2P）/S+1=（28-5+2*2）/1+1=28

原论文 32 这边 28 的原因其实就是 28 加了个边缘 4 个空白才能正好五个五个搜索



```python
# 初始化网络
def __init__(self):
    super(MyLeNet5, self).__init__()

    self.c1 = nn.Conv2d(in_channels=1, out_channels=6, kernel_size=5, padding=2)
    self.Sigmoid = nn.Sigmoid()
    self.s2 = nn.AvgPool2d(kernel_size=2, stride=2)
    self.c3 = nn.Conv2d(in_channels=6, out_channels=16, kernel_size=5)
    self.s4 = nn.AvgPool2d(kernel_size=2, stride=2)
    self.c5 = nn.Conv2d(in_channels=16, out_channels=120, kernel_size=5)

    self.flatten = nn.Flatten()
    self.f6 = nn.Linear( in_features: 120,  out_features: 84)
    self.output = nn.Linear( in_features: 84,  out_features: 10)
```

数据精度：float 32

测试性能（对比）：98.58%

```
epoch50
------------------
train_loss0.04300848753876247
train_acc0.9868166666666667
val_loss0.04835215658892412
val_acc0.9858
Done!

进程已结束，退出代码为 0
```

```
predicted: "7", actual:"7"
predicted: "2", actual:"2"
predicted: "1", actual:"1"
predicted: "0", actual:"0"
predicted: "4", actual:"4"
```

网址：https://github.com/maomao1688/LeNet

代码本地保存：

√

测试数据集保存：

√https://ossci-datasets.s3.amazonaws.com/mnist/train-imaqes-idx3-ubyte.qz