Computational Intelligence Laboratory Exercise 2

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1 Task One

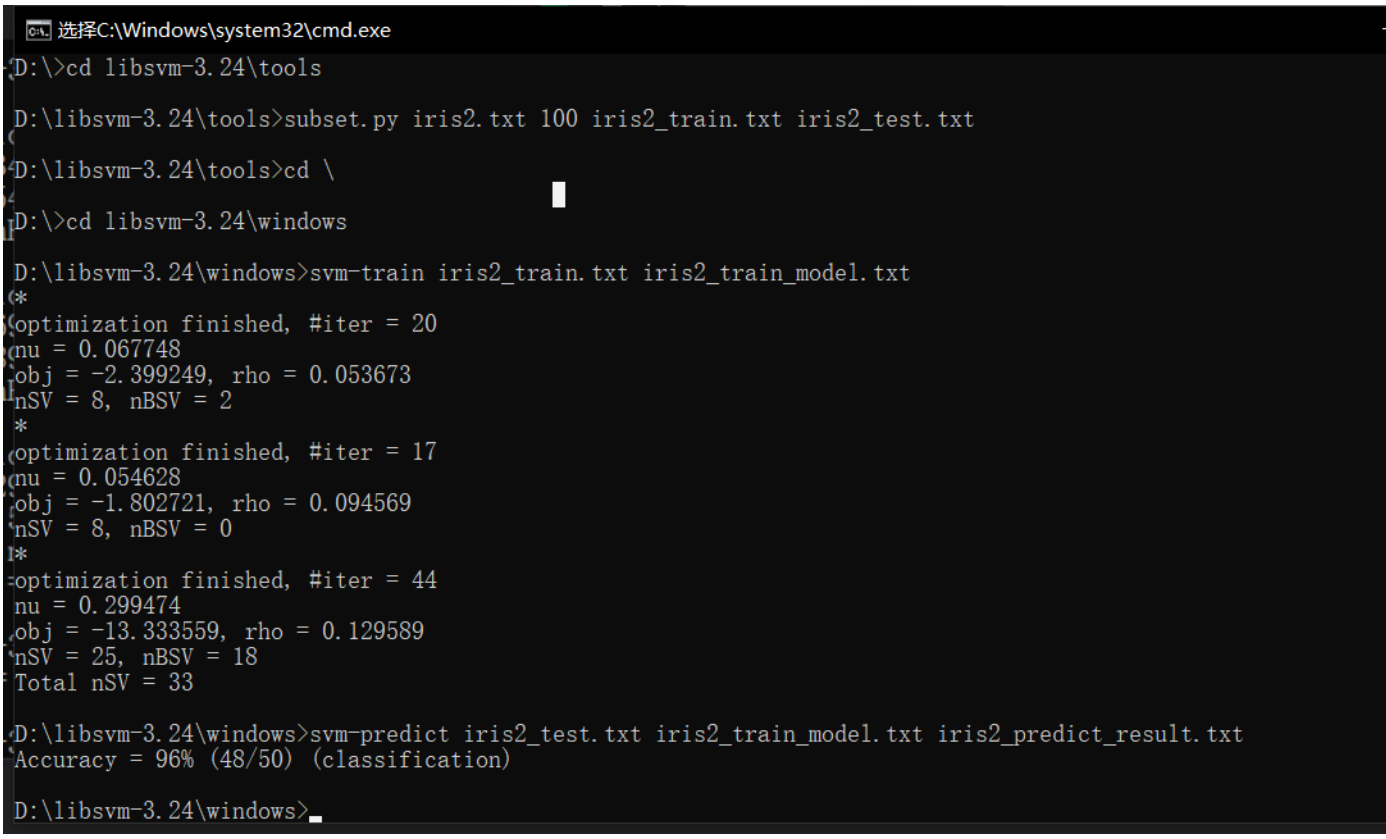
```
D:\libsvm-3.24\windows>svm-train -t 0 iris2_train.txt iris2_modle0.txt
*
optimization finished, #iter = 13
nu = 0.021996
obj = -0.748057, rho = -1.452844
nSV = 3, nBSV = 0
*
optimization finished, #iter = 3
nu = 0.005127
obj = -0.169205, rho = -2.289340
nSV = 2, nBSV = 0
*
optimization finished, #iter = 26
nu = 0.187323
obj = -9.104039, rho = -9.329489
nSV = 15, nBSV = 11
Total nSV = 19

D:\libsvm-3.24\windows>svm-predict iris2_test.txt iris2_modle0.txt predict_result0.txt
Accuracy = 96% (48/50) (classification)
```

```
D:\libsvm-3.24\windows>svm-train -t 1 iris2_train.txt iris2_modle1.txt
*
optimization finished, #iter = 19
nu = 0.000276
obj = -0.009399, rho = -1.135758
nSV = 3, nBSV = 0
*
optimization finished, #iter = 23
nu = 0.000024
obj = -0.000787, rho = -1.372318
nSV = 5, nBSV = 0
.*
optimization finished, #iter = 126
nu = 0.050868
obj = -2.655578, rho = -21.575711
nSV = 6, nBSV = 2
Total nSV = 12

D:\libsvm-3.24\windows>svm-predict iris2_test.txt iris2_modle1.txt predict1_result.txt
Accuracy = 92% (46/50) (classification)

D:\libsvm-3.24\windows>
```



Freom the result of predict accurancy, we can know that using Polynomial Kernel perform little worse than the left two Kernel way using libsvm toolsbox in classifying iris_data.