

```
1 C:\Users\adity\PycharmProjects\  
  pythonProject\.venv\Scripts\python.exe  
    "C:\Users\adity\PycharmProjects\  
      pythonProject\MachineLearningProjects\  
        PROJECT 8.py"  
2 train data: (2500, 4500)  
3 test data: (500, 4500)  
4 Error rate for C = 0.01: train 0.215  
  test 0.250  
5 Error rate for C = 0.10: train 0.074  
  test 0.174  
6 Error rate for C = 1.00: train 0.011  
  test 0.152  
7 C:\Users\adity\PycharmProjects\  
  pythonProject\.venv\Lib\site-packages\  
  sklearn\svm\_base.py:1235:  
  ConvergenceWarning: Liblinear failed to  
    converge, increase the number of  
    iterations.  
8   warnings.warn(  
9 Error rate for C = 10.00: train 0.002  
  test 0.188  
10 C:\Users\adity\PycharmProjects\  
  pythonProject\.venv\Lib\site-packages\  
  sklearn\svm\_base.py:1235:  
  ConvergenceWarning: Liblinear failed to  
    converge, increase the number of  
    iterations.  
11   warnings.warn(  
12 Error rate for C = 100.00: train 0.002  
  test 0.198
```

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13 C:\Users\adity\PycharmProjects\  
pythonProject\.venv\Lib\site-packages\  
sklearn\svm\_base.py:1235:  
ConvergenceWarning: Liblinear failed to  
converge, increase the number of  
iterations.  
14 warnings.warn(  
15 Error rate for C = 1000.00: train 0.003  
test 0.206  
16 C:\Users\adity\PycharmProjects\  
pythonProject\.venv\Lib\site-packages\  
sklearn\svm\_base.py:1235:  
ConvergenceWarning: Liblinear failed to  
converge, increase the number of  
iterations.  
17 warnings.warn(  
18 Error rate for C = 10000.00: train 0.  
001 test 0.204  
19 cross_validation_error:  
20 0.11168935148118495  
21 cross_validation_error:  
22 0.07202881152460984  
23 cross_validation_error:  
24 0.046474358974358976  
25 cross_validation_error:  
26 0.0448897779559118236  
27 cross_validation_error:  
28 0.03125  
29 cross_validation_error:  
30 0.031612645058023206  
31 cross_validation_error:
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32 0.030048076923076924
33 cross_validation_error:
34 0.026073004412354592
35
36 Process finished with exit code 0
37
```