Due: 2016-12-16

Final

Exercise 1d. Explain your results. How do you interpret the hyper-parameters? Is there a great penalty? Is there room for errors without penalty? Is there a relationship between C and ϵ ? Any other thoughts?

(final.SVM.sinc.py)

Response. (See results on reference pages)

In the first run through of final. SVM. sinc. py we achieved an E_{out} training result of 0.999654 and a Testing

Set Score of 0.998651 suggesting good correlation and/or relation between the data being compared. When

looking at the specific hyper-parameters, more specifically from the best result we got

C 0.125, epsilon 0.0, gamma 2.0. Testing set CV score: 0.066389

we can break them down to more specific parts. C denotes the "Penalty Parameter" dictating how much

deviations from the target will be penalized. In this case we can see that C is relatively small; however, now

we must observe epsilon to see how much grace is given to deviations. Epsilon or ϵ denotes the amount of

grace given to deviations. More formally "It specifies the epsilon-tube within which no penalty is associated

in the training loss function with points predicted within a distance epsilon from the actual value." In this

particular case, we see that $\epsilon = 0$ meaning that every deviation from the actual value will be penalized.

Given that C is a relatively small penalty in this particular case this does not have a major effect. However

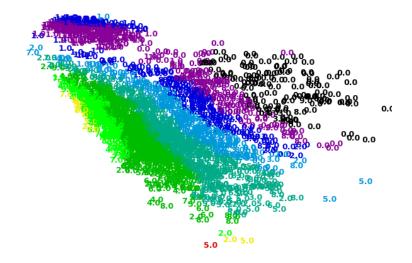
it is possible for C to be quite large and epsilon to be quite unforgiving at the same time, resulting a large

penalties for minor infractions. There seems to be a general pattern within the data set. As C increased in

size and gamma decreased, the over all CV Score improved.

Exercise 2b. Run the program in 2a and modify it if you need to, to find and report the best set of hyper-

parameters and the final validation score. Save the plot and interpret it, give your comments about it.



Response.

Exercise 2c. Explain your results. How do you interpret the hyper-parameters? Is there a great penalty? Is there room for errors without penalty? Is there a relationship between C and ϵ ? Any other thoughts? (final.SVM.dig.py)

Response. (See results on reference pages)

In the first run through of final SVM dig.py we achieved an E_{out} training result of 0.347283 and a Testing Set Score of 0.322890 indicating minimal correlation and/or relation between the data being compared. When looking at the specific hyper-parameters, specifically the best result of the data set

C 4096.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.336943

we are able to decompose them into their individual parts. Given that the explanation of what each variable represents was stated please reference problem above (1d). There is a major difference the hyper-parameters between final.SVM.sinc and final.SVM.dig. Most noticeably the difference in C. C in this test case is extremely large, indicating major penalty for deviation from the actual value. This could possible have attributed to the lower Training and Testing Score. From what we know about SVM we can assume the a harsh C could be offset by an equally forgiving ϵ . Looking at Epsilon we can see that $\epsilon = 1.3$, this means that the result allows for some deviation and is more forgiving when compared to final.SVM.sinc.py; however, it would seem that it is still not large enough to offset the staggering penalty that is enforced by C in the case significant deviation. Comparing all the results it would seem that there isn't as clear a relationship between

C and γ as in the previous experiment. However analyzing all the "BEST!" show that as C and γ increase, so it would seem that CV Score increases as well.

final.SVM.sinc.results0.txt

final.SVM.sinc.results1.txt

```
====== CV Score =======
C 0.03125, epsilon 0.0, gamma 3.0517578125e-05. Testing set CV score: -0.558361
C 0.03125, epsilon 0.0, gamma 0.00048828125. Testing set CV score: -0.543054
C 0.125, epsilon 0.0, gamma 2.0. Testing set CV score: -0.522815
C 0.5, epsilon 0.0, gamma 0.0001220703125. Testing set CV score: -0.519460
C 0.5, epsilon 0.0, gamma 2.0. Testing set CV score: -0.498454
C 8.0, epsilon 0.0, gamma 0.5. Testing set CV score: -0.229096
C 32.0, epsilon 0.0, gamma 0.5. Testing set CV score: -0.030411
C 128.0, epsilon 0.0, gamma 0.5. Testing set CV score: -0.001866
C 512.0, epsilon 0.0, gamma 0.5. Testing set CV score: -0.001832
*....*
optimization finished, #iter = 70479
obj = -5.411152, rho = -0.033465
nSV = 847, nBSV = 0
====== E out in Training =======
Training set score: 0.999999
======= Testing Set Score ========
Testing set score: 0.999981
```

final.SVM.dig.results0.txt

====== CV Score ======= BEST! -> C 64.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.300746 BEST! -> C 64.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.310104 C 64.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.302810 BEST! -> C 64.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.323933 C 64.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.323445 C 64.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.304285 C 64.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.309371 C 64.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.319010 BEST! -> C 64.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.325050 C 64.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.324091 C 64.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.303406 C 64.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.314124 C 64.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.324296 BEST! -> C 64.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.327599 C 64.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.324234 C 64.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.307499 C 64.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.313521 C 64.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.322736 BEST! -> C 64.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.330599 C 64.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.317745 C 64.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.309450 C 64.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.317798 C 64.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.323247 C 64.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.321338 C 64.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.329219 C 64.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.311651

C 64.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.320332

C 64.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.328751 C 64.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.315675 C 64.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.320102 C 64.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.326585 C 64.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.331891 C 64.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.327456 C 64.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.317368 C 64.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.322450 C 64.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.327138 C 64.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.330352 C 64.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.327885 C 64.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.316498 C 64.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.321991 C 64.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.331192 C 64.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.330986 C 64.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.326065 C 64.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.319376 C 64.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.323540 C 64.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.329601 C 64.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.325391 C 64.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.322518 C 64.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.317126 C 64.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.324781 C 64.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.323656 C 64.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.331206 C 64.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.320978 C 64.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.319041 C 64.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.322254 C 64.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.330401 C 64.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.321672 C 64.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.320577 C 64.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.318381 C 64.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.323298

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C 64.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.325996
C 64.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.329667
C 64.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.317093
C 64.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.319283
C 64.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.319990
C 64.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.331780
C 64.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.328335
C 64.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.317321
C 64.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.319353
C 64.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.321825
BEST! -> C 64.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.332263
C 64.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.314076
C 64.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.311304
C 64.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.320234
C 64.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.323463
BEST! -> C 64.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.334010
C 64.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.317421
C 64.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.306075
C 64.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.316795
C 64.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.316946
C 64.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.333351
C 64.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.319737
C 64.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.305300
C 64.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.319702
C 64.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.321180
C 64.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.332548
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C 64.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.311954
C 64.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.302959

C 64.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.315884
C 64.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.319420
C 64.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.322500
C 64.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.306550
C 64.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.298543

C 64.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.315003

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C 64.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.321228
C 64.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.326893
C 64.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.298808
C 64.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.293084
C 64.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.314644
C 64.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.318039
C 64.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.324387
C 64.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.295985
C 64.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.280748
C 128.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.298828
C 128.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.313734
C 128.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.320302
C 128.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.322328
C 128.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.320113
C 128.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.303920
C 128.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.315255
C 128.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.320894
C 128.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.326339
C 128.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.311352
C 128.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.306981
C 128.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.317264
C 128.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.326490
C 128.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.316438
C 128.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.325011
C 128.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.297146
C 128.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.318547
C 128.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.324775
C 128.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.329595
C 128.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.329924
C 128.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.312483
C 128.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.320088
C 128.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.328965
C 128.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.329836
C 128.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.325239
C 128.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.314541
C 128.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.320579
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C 128.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.330164
C 128.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.328244
C 128.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.327664
C 128.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.316044
C 128.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.320570
C 128.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.331248
BEST! -> C 128.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.334839
C 128.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.330535
C 128.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.315948
C 128.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.322938
C 128.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.320277
C 128.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.333037
C 128.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.327897
C 128.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.316364
C 128.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.322731
C 128.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.329493
C 128.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.332462
C 128.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.325919
C 128.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.319891
C 128.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.323248
C 128.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.332156
C 128.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.329198
C 128.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.328211
C 128.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.320902
C 128.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.322535
C 128.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.330352
C 128.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.331198
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C 128.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.329545

C 128.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.320993

C 128.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.320887 C 128.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.321170

BEST! -> C 128.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.335387

C 128.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.321770

C 128.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.321831

C 128.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.319111 C 128.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.320415 C 128.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.316876 C 128.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.324959 C 128.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.334349 C 128.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.316938 C 128.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.317901 C 128.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.318815 C 128.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.326226 C 128.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.331180 C 128.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.326641 C 128.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.320063 C 128.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.320730 C 128.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.322931 C 128.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.333901 C 128.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.321471 C 128.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.304586 C 128.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.318742 C 128.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.323668 C 128.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.331162 C 128.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.315628 C 128.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.308260 C 128.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.317897 C 128.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.314792 C 128.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.332407 C 128.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.311058 C 128.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.298256 C 128.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.316509 C 128.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.320986 C 128.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.332363 C 128.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.307865 C 128.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.300449 C 128.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.315185

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C 128.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.321215
C 128.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.326553
C 128.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.300076
C 128.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.292981
C 128.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.314253
C 128.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.318004
C 128.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.323196
C 128.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.291284
C 128.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.280024
C 256.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.302960
C 256.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.317729
C 256.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.321957
C 256.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.327276
C 256.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.319668
C 256.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.303820
C 256.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.318871
C 256.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.325965
C 256.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.328455
C 256.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.321637
C 256.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.308223
C 256.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.316028
C 256.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.326137
C 256.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.325970
C 256.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.321891
C 256.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.310702
C 256.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.322540
C 256.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.328913
C 256.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.326603
C 256.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.322793
C 256.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.314282
C 256.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.321253
C 256.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.328879
C 256.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.326227
C 256.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.322662
C 256.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.312765
C 256.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.322491
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C 256.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.331195
C 256.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.323721
C 256.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.325659
C 256.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.318326
C 256.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.325010
C 256.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.331533
C 256.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.330062
C 256.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.325883
C 256.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.316675
C 256.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.322032
C 256.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.331947
C 256.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.330833
C 256.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.326645
C 256.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.316423
C 256.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.322246
C 256.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.333427
C 256.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.332081
C 256.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.323115
C 256.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.319217
C 256.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.324068
C 256.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.326738
C 256.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.334556
C 256.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.323888
C 256.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.316508
C 256.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.324218
C 256.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.334046
C 256.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.330283
C 256.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.323025
C 256.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.318285
C 256.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.325782
C 256.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.331572
C 256.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.329331
C 256.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.319074
C 256.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.317238
C 256.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.323378
C 256.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.332686
```

```
C 256.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.330311
C 256.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.318164
C 256.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.320065
C 256.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.325980
C 256.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.331544
C 256.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.326601
C 256.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.322773
C 256.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.315548
C 256.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.326140
C 256.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.327050
C 256.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.314007
C 256.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.313251
C 256.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.318806
C 256.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.327178
C 256.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.328201
C 256.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.321282
C 256.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.317103
C 256.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.320611
C 256.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.326970
C 256.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.326085
C 256.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.316587
C 256.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.315762
C 256.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.319505
C 256.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.323558
C 256.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.317491
C 256.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.311324
C 256.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.305068
C 256.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.316236
C 256.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.325983
C 256.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.311827
C 256.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.306209
C 256.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.305679
C 256.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.315392
C 256.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.314372
C 256.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.320596
C 256.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.303095
```

```
C 256.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.295398
C 256.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.315427
C 256.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.314721
C 256.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.309650
C 256.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.294504
C 256.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.281223
C 512.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.305505
C 512.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.316111
C 512.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.325825
C 512.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.318737
C 512.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.316216
C 512.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.291150
C 512.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.318459
C 512.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.325094
C 512.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.323348
C 512.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.318775
C 512.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.311504
C 512.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.322796
C 512.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.325735
C 512.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.323150
C 512.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.310374
C 512.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.311156
C 512.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.319791
C 512.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.327282
C 512.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.327518
C 512.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.313223
C 512.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.304162
C 512.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.322692
C 512.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.330340
C 512.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.328389
C 512.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.323657
C 512.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.316008
C 512.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.324940
C 512.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.330716
C 512.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.332356
C 512.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.325547
```

```
C 512.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.318416
C 512.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.324947
C 512.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.323720
C 512.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.328169
C 512.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.325899
C 512.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.312859
C 512.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.324946
C 512.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.328800
C 512.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.328445
C 512.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.324301
C 512.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.320004
C 512.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.326040
C 512.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.331698
C 512.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.332106
C 512.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.324908
C 512.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.320172
C 512.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.323315
C 512.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.328459
C 512.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.328067
C 512.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.314844
C 512.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.318845
C 512.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.326565
C 512.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.325468
C 512.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.327691
C 512.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.323405
C 512.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.322607
C 512.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.325973
C 512.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.331024
C 512.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.329692
C 512.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.309904
C 512.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.321336
C 512.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.327981
C 512.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.328341
C 512.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.328314
C 512.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.315710
C 512.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.322776
```

```
C 512.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.321353
C 512.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.325306
C 512.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.326819
C 512.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.315448
C 512.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.322325
C 512.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.328906
C 512.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.323455
C 512.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.321902
C 512.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.311119
C 512.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.320807
C 512.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.329843
C 512.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.321493
C 512.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.314650
C 512.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.309273
C 512.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.319075
C 512.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.329945
C 512.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.320367
C 512.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.318892
C 512.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.308168
C 512.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.318173
C 512.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.329672
C 512.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.319715
C 512.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.315279
C 512.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.304940
C 512.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.318922
C 512.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.326645
C 512.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.311983
C 512.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.310482
C 512.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.295328
C 512.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.315278
C 512.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.326382
C 512.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.303578
C 512.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.305156
C 512.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.289062
C 512.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.314023
C 512.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.323465
```

```
C 512.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.300623
C 512.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.297939
C 512.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.283625
C 1024.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.307786
C 1024.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.319519
C 1024.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.322389
C 1024.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.304946
C 1024.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.303463
C 1024.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.312656
C 1024.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.319454
C 1024.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.320976
C 1024.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.321149
C 1024.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.318798
C 1024.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.315742
C 1024.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.321122
C 1024.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.324353
C 1024.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.312630
C 1024.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.324459
C 1024.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.303987
C 1024.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.320147
C 1024.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.330701
C 1024.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.323742
C 1024.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.320381
C 1024.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.307257
C 1024.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.322640
C 1024.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.328490
C 1024.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.326910
C 1024.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.323785
C 1024.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.319496
C 1024.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.324580
C 1024.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.328679
C 1024.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.327968
C 1024.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.324725
C 1024.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.321328
C 1024.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.318058
C 1024.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.329930
```

```
C 1024.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.329082
C 1024.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.316692
C 1024.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.321146
C 1024.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.324071
C 1024.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.332213
C 1024.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.330881
C 1024.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.324680
C 1024.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.322227
C 1024.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.329437
C 1024.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.329769
C 1024.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.330606
C 1024.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.322311
C 1024.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.322291
C 1024.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.324945
C 1024.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.325287
C 1024.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.334424
C 1024.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.325087
C 1024.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.319453
C 1024.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.326019
C 1024.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.332319
C 1024.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.327362
C 1024.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.320066
C 1024.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.324843
C 1024.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.323260
C 1024.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.331089
C 1024.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.330028
C 1024.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.319417
C 1024.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.322938
C 1024.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.328208
C 1024.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.329864
C 1024.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.328110
C 1024.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.317501
C 1024.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.323208
C 1024.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.328115
C 1024.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.330422
C 1024.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.325134
```

```
C 1024.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.315803
C 1024.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.324308
C 1024.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.330716
C 1024.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.327285
C 1024.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.327920
C 1024.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.312426
C 1024.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.320133
C 1024.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.331433
C 1024.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.312933
C 1024.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.318254
C 1024.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.307995
C 1024.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.321729
C 1024.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.330468
C 1024.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.322148
C 1024.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.317122
C 1024.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.305992
C 1024.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.320535
C 1024.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.330614
C 1024.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.320219
C 1024.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.312882
C 1024.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.299969
C 1024.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.318512
C 1024.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.323761
C 1024.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.312301
C 1024.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.305007
C 1024.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.294253
C 1024.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.319181
C 1024.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.331385
C 1024.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.305048
C 1024.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.297958
C 1024.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.286204
C 1024.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.315450
C 1024.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.325996
C 1024.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.301946
C 1024.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.297281
C 1024.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.279357
```

```
C 2048.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.312014
C 2048.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.317514
C 2048.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.319657
C 2048.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.321779
C 2048.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.315249
C 2048.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.314900
C 2048.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.317296
C 2048.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.322823
C 2048.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.319167
C 2048.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.315149
C 2048.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.317130
C 2048.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.321106
C 2048.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.323044
C 2048.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.321986
C 2048.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.320020
C 2048.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.318283
C 2048.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.325220
C 2048.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.325168
C 2048.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.313796
C 2048.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.320142
C 2048.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.320369
C 2048.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.321200
C 2048.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.326467
C 2048.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.326243
C 2048.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.323536
C 2048.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.319404
C 2048.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.319737
C 2048.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.328149
C 2048.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.331452
C 2048.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.324429
C 2048.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.320182
C 2048.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.322098
C 2048.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.333322
C 2048.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.328467
C 2048.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.324488
C 2048.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.323191
```

```
C 2048.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.329399
C 2048.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.324135
C 2048.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.330248
C 2048.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.326330
C 2048.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.322313
C 2048.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.328623
C 2048.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.333148
C 2048.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.330157
C 2048.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.323092
C 2048.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.323874
C 2048.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.328500
C 2048.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.332075
C 2048.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.329758
C 2048.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.321683
C 2048.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.322161
C 2048.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.329725
C 2048.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.333511
C 2048.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.334242
C 2048.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.322522
C 2048.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.322931
C 2048.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.330491
C 2048.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.333103
C 2048.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.333022
C 2048.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.321410
C 2048.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.326533
C 2048.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.331265
C 2048.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.323033
C 2048.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.327211
C 2048.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.317396
C 2048.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.319310
C 2048.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.331338
C 2048.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.328324
C 2048.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.325988
C 2048.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.317276
C 2048.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.324446
C 2048.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.334115
```

```
C 2048.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.328591
C 2048.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.328043
C 2048.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.317680
C 2048.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.323987
C 2048.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.334099
C 2048.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.328913
C 2048.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.318445
C 2048.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.305665
C 2048.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.323590
C 2048.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.335046
C 2048.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.326452
C 2048.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.309935
C 2048.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.303134
C 2048.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.324332
C 2048.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.333003
C 2048.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.318849
C 2048.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.311527
C 2048.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.299822
C 2048.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.320840
C 2048.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.332174
C 2048.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.315407
C 2048.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.306601
C 2048.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.297442
C 2048.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.322348
C 2048.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.328490
C 2048.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.309926
C 2048.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.302295
C 2048.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.285282
C 2048.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.318638
C 2048.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.322019
C 2048.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.308451
C 2048.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.296517
C 2048.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.275315
C 4096.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.316199
C 4096.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.319158
C 4096.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.319313
```

```
C 4096.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.303243
C 4096.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.313579
C 4096.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.317416
C 4096.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.320869
C 4096.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.320661
C 4096.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.321906
C 4096.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.321257
C 4096.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.319371
C 4096.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.324083
C 4096.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.320631
C 4096.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.319417
C 4096.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.320087
C 4096.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.320927
C 4096.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.318559
C 4096.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.323909
C 4096.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.321199
C 4096.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.319870
C 4096.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.322827
C 4096.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.319160
C 4096.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.324566
C 4096.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.325723
C 4096.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.322551
C 4096.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.322020
C 4096.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.321426
C 4096.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.327165
C 4096.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.327744
C 4096.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.313727
C 4096.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.323570
C 4096.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.327488
C 4096.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.320896
C 4096.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.332174
C 4096.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.323871
C 4096.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.324611
C 4096.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.326667
C 4096.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.329684
C 4096.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.328886
```

```
C 4096.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.326430
C 4096.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.319630
C 4096.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.331308
BEST! -> C 4096.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.336943
C 4096.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.329283
C 4096.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.323231
C 4096.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.326880
C 4096.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.332689
C 4096.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.333819
C 4096.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.328425
C 4096.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.322193
C 4096.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.325172
C 4096.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.325645
C 4096.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.334637
C 4096.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.327035
C 4096.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.321693
C 4096.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.320624
C 4096.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.335256
C 4096.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.336699
C 4096.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.331236
C 4096.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.315774
C 4096.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.326628
```

C 4096.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.334964 C 4096.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.333125 C 4096.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.325246 C 4096.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.312884

C 4096.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.323865 C 4096.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.334909 C 4096.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.331255 C 4096.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.319260 C 4096.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.311285

C 4096.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.320271 C 4096.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.330953 C 4096.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.328280 C 4096.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.318454

```
C 4096.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.317109
C 4096.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.328037
C 4096.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.329495
C 4096.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.328746
C 4096.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.318844
C 4096.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.305593
C 4096.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.318428
C 4096.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.329045
C 4096.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.327565
C 4096.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.313481
C 4096.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.304094
C 4096.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.324624
C 4096.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.327244
C 4096.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.323230
C 4096.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.308734
C 4096.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.298598
C 4096.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.315214
C 4096.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.318319
C 4096.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.323339
C 4096.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.301487
C 4096.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.290980
C 4096.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.323377
C 4096.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.306296
C 4096.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.310961
C 4096.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.299613
C 4096.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.288801
C 4096.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.319944
C 4096.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.303606
C 4096.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.306261
C 4096.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.290031
C 4096.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.276134
optimization finished, #iter = 604684
obj = -26731900.053213, rho = -68.674752
nSV = 3939, nBSV = 3926
====== Final BEST =======
C 4096.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.336943
```

====== E_out in Training ========

Training set score: 0.347283

====== Testing Set Score =======

Testing set score: 0.322890

final.SVM.dig.results1.txt

====== CV Score ======= BEST! -> C 64.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.301837 BEST! -> C 64.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.310911 C 64.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.302810 BEST! -> C 64.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.327782 C 64.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.323216 C 64.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.300949 C 64.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.310706 C 64.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.319355 C 64.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.323565 C 64.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.325429 C 64.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.303406 C 64.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.314514 C 64.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.325381 C 64.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.325346 C 64.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.326498 C 64.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.308880 C 64.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.315794 C 64.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.324703 C 64.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.327099 C 64.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.325355 C 64.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.310364 C 64.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.315513 C 64.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.323247 BEST! -> C 64.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.331408 C 64.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.326960 C 64.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.312646 C 64.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.316609 C 64.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.325436

BEST! -> C 64.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.332140

C 64.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.328751 C 64.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.308598 C 64.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.320368 C 64.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.323630 C 64.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.331891 C 64.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.320517 C 64.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.318372 C 64.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.322450 C 64.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.325995 BEST! -> C 64.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.334236 C 64.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.325801 C 64.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.316498 C 64.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.321532 C 64.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.328521 C 64.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.325442 C 64.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.325535 C 64.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.317407

C 64.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.321787 C 64.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.328451 C 64.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.330367 C 64.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.324486 C 64.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.319091 C 64.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.319732 C 64.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.323656 C 64.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.332154 C 64.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.324209 C 64.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.318067 C 64.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.323280 C 64.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.331998 C 64.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.330228 C 64.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.317230 C 64.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.319000 C 64.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.320946 C 64.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.332142

```
C 64.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.329667
C 64.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.318411
C 64.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.320824
C 64.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.321118
C 64.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.329473
C 64.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.324461
C 64.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.317468
C 64.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.318454
C 64.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.323784
C 64.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.331225
C 64.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.322853
C 64.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.311304
C 64.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.320234
C 64.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.324816
C 64.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.333640
C 64.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.319995
C 64.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.302096
C 64.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.311607
C 64.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.321662
C 64.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.330854
C 64.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.315836
C 64.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.305300
C 64.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.318297
C 64.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.322040
C 64.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.331649
C 64.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.310758
C 64.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.300720
C 64.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.317268
C 64.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.320555
C 64.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.330144
C 64.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.305705
C 64.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.298017
C 64.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.316991
C 64.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.319089
C 64.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.321991
C 64.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.298956
```

```
C 64.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.299317
C 64.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.311755
C 64.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.318039
C 64.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.322721
C 64.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.295985
C 64.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.283891
C 128.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.298932
C 128.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.314100
C 128.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.322325
C 128.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.322584
C 128.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.321442
C 128.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.300986
C 128.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.314981
C 128.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.308407
C 128.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.323239
C 128.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.321454
C 128.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.306981
C 128.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.316686
C 128.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.324789
C 128.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.316438
C 128.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.323125
C 128.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.307844
C 128.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.306316
C 128.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.325755
C 128.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.328719
C 128.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.317127
C 128.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.309019
C 128.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.321101
C 128.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.324079
C 128.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.321590
C 128.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.327472
C 128.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.314541
C 128.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.320579
C 128.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.330164
C 128.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.330610
C 128.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.330298
```

```
C 128.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.314641
C 128.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.319640
C 128.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.328849
BEST! -> C 128.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.334839
C 128.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.324499
C 128.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.315468
C 128.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.316691
C 128.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.327864
C 128.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.329116
C 128.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.326242
C 128.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.313869
C 128.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.321666
C 128.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.322855
C 128.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.328798
C 128.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.325335
C 128.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.320670
C 128.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.325768
C 128.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.332156
C 128.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.330828
C 128.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.323509
C 128.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.317487
C 128.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.323800
C 128.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.331454
C 128.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.330254
C 128.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.326347
C 128.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.316563
C 128.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.324245
C 128.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.333929
C 128.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.321915
C 128.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.319131
C 128.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.316848
C 128.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.325909
BEST! -> C 128.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.334921
```

C 128.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.328155

```
C 128.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.310490
C 128.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.316992
C 128.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.326223
C 128.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.331783
C 128.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.328403
C 128.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.316730
C 128.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.319585
C 128.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.324771
C 128.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.333741
C 128.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.320572
C 128.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.314482
C 128.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.318306
C 128.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.319181
C 128.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.333817
C 128.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.319291
C 128.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.310395
C 128.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.312796
C 128.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.317269
C 128.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.332338
C 128.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.316397
C 128.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.308260
C 128.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.317897
C 128.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.324256
C 128.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.332260
C 128.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.309267
C 128.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.304004
C 128.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.316494
C 128.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.321978
C 128.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.327491
C 128.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.306164
C 128.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.300554
C 128.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.315185
C 128.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.320308
C 128.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.320249
C 128.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.299493
C 128.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.292981
```

```
C 128.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.313594
C 128.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.318814
C 128.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.320128
C 128.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.291669
C 128.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.288696
C 256.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.303093
C 256.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.317729
C 256.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.321957
C 256.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.321887
C 256.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.323942
C 256.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.304223
C 256.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.318871
C 256.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.323779
C 256.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.325691
C 256.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.320672
C 256.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.306655
C 256.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.316028
C 256.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.326567
C 256.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.315251
C 256.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.326849
C 256.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.308196
C 256.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.320283
C 256.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.325575
C 256.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.328092
C 256.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.324012
C 256.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.312339
C 256.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.321724
C 256.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.328757
C 256.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.328761
C 256.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.326043
C 256.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.315528
C 256.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.314721
C 256.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.331195
C 256.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.330514
C 256.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.326572
C 256.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.316041
```

```
C 256.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.323463
C 256.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.330413
C 256.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.329057
C 256.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.317961
C 256.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.317611
C 256.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.325808
C 256.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.333010
C 256.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.329748
C 256.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.325145
C 256.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.315544
C 256.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.327351
C 256.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.329708
C 256.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.332633
C 256.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.324295
C 256.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.319189
C 256.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.327508
C 256.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.333074
C 256.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.329111
C 256.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.323413
C 256.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.318194
C 256.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.326928
C 256.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.333251
C 256.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.331586
C 256.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.323025
C 256.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.317175
C 256.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.323188
C 256.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.334808
C 256.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.329320
C 256.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.325489
C 256.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.319806
C 256.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.326187
C 256.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.331453
C 256.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.327052
C 256.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.318164
C 256.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.321767
C 256.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.327556
```

```
C 256.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.327337
C 256.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.325751
C 256.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.322773
C 256.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.319785
C 256.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.326140
BEST! -> C 256.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.335034
C 256.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.325519
C 256.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.319783
C 256.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.318191
C 256.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.319886
C 256.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.330541
C 256.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.318671
C 256.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.308982
C 256.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.316648
C 256.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.326263
C 256.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.326155
C 256.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.316403
C 256.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.308587
C 256.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.318465
C 256.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.325427
C 256.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.321726
C 256.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.316476
C 256.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.304470
C 256.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.316719
```

C 256.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.325827 C 256.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.315866 C 256.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.307806 C 256.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.300224

C 256.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.314097 C 256.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.321252 C 256.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.314478 C 256.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.300929 C 256.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.292067

C 256.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.312971 C 256.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.321562

```
C 256.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.309864
C 256.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.295616
C 256.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.295766
C 512.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.306247
C 512.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.318823
C 512.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.320185
C 512.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.325109
C 512.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.322523
C 512.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.309328
C 512.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.318459
C 512.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.325094
C 512.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.323661
C 512.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.316451
C 512.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.311504
C 512.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.320011
C 512.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.323853
C 512.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.324943
C 512.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.310374
C 512.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.314542
C 512.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.321556
C 512.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.326884
C 512.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.326094
C 512.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.322807
C 512.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.314684
C 512.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.321970
C 512.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.331722
C 512.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.324841
C 512.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.323657
C 512.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.316636
C 512.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.322109
C 512.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.328704
C 512.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.328418
C 512.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.322461
C 512.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.311117
C 512.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.326105
C 512.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.330408
```

```
C 512.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.330720
C 512.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.326658
C 512.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.316881
C 512.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.325432
C 512.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.324534
C 512.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.322916
C 512.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.326490
C 512.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.317947
C 512.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.326040
C 512.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.327105
C 512.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.331444
C 512.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.316056
C 512.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.322434
C 512.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.321404
C 512.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.331270
C 512.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.334856
C 512.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.324690
C 512.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.320956
C 512.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.325963
C 512.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.332054
C 512.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.331588
C 512.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.319828
C 512.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.320093
C 512.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.327574
C 512.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.327171
C 512.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.329747
C 512.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.319311
C 512.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.321336
C 512.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.329617
C 512.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.325674
C 512.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.331595
C 512.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.309921
C 512.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.317468
C 512.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.327862
C 512.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.324719
C 512.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.328066
```

```
C 512.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.313307
C 512.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.316322
C 512.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.327250
C 512.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.321164
C 512.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.316077
C 512.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.312471
C 512.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.321532
C 512.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.329137
C 512.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.317365
C 512.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.314650
C 512.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.308141
C 512.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.321268
C 512.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.328431
C 512.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.317793
C 512.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.322204
C 512.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.308168
C 512.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.318839
C 512.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.326940
C 512.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.307780
C 512.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.312481
C 512.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.302868
C 512.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.317112
C 512.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.326645
C 512.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.311983
C 512.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.310482
C 512.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.295089
C 512.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.315405
C 512.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.326751
C 512.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.308010
C 512.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.298333
C 512.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.289969
C 512.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.315634
C 512.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.324970
C 512.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.297409
C 512.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.291719
C 512.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.287420
```

```
C 1024.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.310874
C 1024.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.319519
C 1024.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.322389
C 1024.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.317802
C 1024.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.315061
C 1024.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.311202
C 1024.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.320564
C 1024.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.326738
C 1024.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.325395
C 1024.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.316708
C 1024.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.315024
C 1024.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.309928
C 1024.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.322343
C 1024.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.321418
C 1024.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.317594
C 1024.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.316748
C 1024.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.322936
C 1024.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.326253
C 1024.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.314851
C 1024.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.321772
C 1024.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.307257
C 1024.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.314879
C 1024.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.328490
C 1024.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.326910
C 1024.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.324073
C 1024.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.321094
C 1024.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.323480
C 1024.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.329990
C 1024.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.328273
C 1024.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.324631
C 1024.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.320296
C 1024.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.325955
C 1024.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.330059
C 1024.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.332678
C 1024.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.324335
C 1024.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.321146
```

```
C 1024.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.324741
C 1024.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.334652
C 1024.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.329078
C 1024.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.325823
C 1024.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.319406
C 1024.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.323490
C 1024.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.332851
C 1024.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.330606
C 1024.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.324712
C 1024.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.324485
C 1024.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.323883
C 1024.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.332312
C 1024.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.331657
C 1024.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.323613
C 1024.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.317542
C 1024.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.330478
C 1024.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.331770
C 1024.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.330903
C 1024.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.322097
C 1024.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.324843
C 1024.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.330630
C 1024.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.322952
C 1024.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.329670
C 1024.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.321631
C 1024.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.318606
C 1024.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.332022
C 1024.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.327261
C 1024.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.321458
C 1024.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.317427
C 1024.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.320602
C 1024.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.330409
C 1024.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.327687
C 1024.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.330209
C 1024.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.315741
C 1024.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.317436
C 1024.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.332008
```

```
C 1024.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.324721
C 1024.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.317368
C 1024.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.311116
C 1024.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.322552
C 1024.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.332110
C 1024.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.322960
C 1024.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.320217
C 1024.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.307995
C 1024.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.321729
C 1024.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.329222
C 1024.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.324314
C 1024.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.317038
C 1024.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.304978
C 1024.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.321993
C 1024.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.331691
C 1024.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.318970
C 1024.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.316003
C 1024.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.299969
C 1024.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.310220
C 1024.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.331345
C 1024.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.313484
C 1024.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.309434
C 1024.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.293171
C 1024.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.320718
C 1024.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.327205
C 1024.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.307014
C 1024.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.304040
C 1024.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.286204
C 1024.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.317280
C 1024.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.328037
C 1024.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.305489
C 1024.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.299475
C 1024.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.277748
C 2048.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.315592
C 2048.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.319150
C 2048.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.307841
```

```
C 2048.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.315791
C 2048.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.313753
C 2048.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.314463
C 2048.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.318135
C 2048.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.321062
C 2048.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.323479
C 2048.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.317937
C 2048.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.316249
C 2048.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.321958
C 2048.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.322847
C 2048.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.325353
C 2048.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.318378
C 2048.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.319682
C 2048.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.319447
C 2048.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.324993
C 2048.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.323764
C 2048.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.319353
C 2048.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.309437
C 2048.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.313969
C 2048.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.325490
C 2048.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.323212
C 2048.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.313431
C 2048.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.321220
C 2048.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.324556
C 2048.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.327994
C 2048.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.327688
C 2048.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.323924
C 2048.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.321105
C 2048.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.317251
C 2048.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.331106
C 2048.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.319113
C 2048.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.323313
C 2048.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.321169
C 2048.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.329399
C 2048.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.324135
C 2048.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.327508
```

```
C 2048.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.325667
C 2048.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.323051
C 2048.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.325838
C 2048.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.333306
C 2048.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.330916
C 2048.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.325357
C 2048.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.324119
C 2048.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.328500
BEST! -> C 2048.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.330207
C 2048.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.321683
C 2048.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.322161
C 2048.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.331730
```

```
C 2048.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.321683
C 2048.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.322161
C 2048.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.331730
C 2048.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.331428
C 2048.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.329603
C 2048.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.312975
C 2048.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.324305
C 2048.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.331780
C 2048.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.330260
C 2048.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.328377
C 2048.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.319374
C 2048.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.326533
C 2048.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.333024
C 2048.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.331282
C 2048.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.319773
C 2048.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.317613
C 2048.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.324974
C 2048.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.334083
C 2048.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.321122
C 2048.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.324755
C 2048.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.315075
C 2048.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.325466
C 2048.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.332135
C 2048.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.330870
C 2048.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.317248
```

```
C 2048.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.312391
C 2048.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.324143
C 2048.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.333903
C 2048.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.328709
C 2048.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.313847
C 2048.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.305665
C 2048.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.323620
C 2048.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.334353
C 2048.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.327242
C 2048.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.314628
C 2048.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.304350
C 2048.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.320631
C 2048.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.334884
C 2048.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.320873
C 2048.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.309984
C 2048.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.298888
C 2048.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.320503
C 2048.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.333026
C 2048.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.309736
C 2048.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.303329
C 2048.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.294505
C 2048.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.318768
C 2048.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.329632
C 2048.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.309926
C 2048.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.302295
C 2048.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.291529
C 2048.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.318190
C 2048.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.325579
C 2048.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.303646
C 2048.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.293759
C 2048.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.275315
C 4096.0, epsilon 0.5, gamma 0.015625. Testing set CV score: 0.316662
C 4096.0, epsilon 0.5, gamma 0.03125. Testing set CV score: 0.318505
C 4096.0, epsilon 0.5, gamma 0.0625. Testing set CV score: 0.307055
C 4096.0, epsilon 0.5, gamma 0.125. Testing set CV score: 0.314690
C 4096.0, epsilon 0.5, gamma 0.25. Testing set CV score: 0.320040
```

```
C 4096.0, epsilon 0.6, gamma 0.015625. Testing set CV score: 0.316841
C 4096.0, epsilon 0.6, gamma 0.03125. Testing set CV score: 0.319299
C 4096.0, epsilon 0.6, gamma 0.0625. Testing set CV score: 0.309431
C 4096.0, epsilon 0.6, gamma 0.125. Testing set CV score: 0.317991
C 4096.0, epsilon 0.6, gamma 0.25. Testing set CV score: 0.315692
C 4096.0, epsilon 0.7, gamma 0.015625. Testing set CV score: 0.316711
C 4096.0, epsilon 0.7, gamma 0.03125. Testing set CV score: 0.319751
C 4096.0, epsilon 0.7, gamma 0.0625. Testing set CV score: 0.326200
C 4096.0, epsilon 0.7, gamma 0.125. Testing set CV score: 0.320500
C 4096.0, epsilon 0.7, gamma 0.25. Testing set CV score: 0.317800
C 4096.0, epsilon 0.8, gamma 0.015625. Testing set CV score: 0.318388
C 4096.0, epsilon 0.8, gamma 0.03125. Testing set CV score: 0.324621
C 4096.0, epsilon 0.8, gamma 0.0625. Testing set CV score: 0.328106
C 4096.0, epsilon 0.8, gamma 0.125. Testing set CV score: 0.312434
C 4096.0, epsilon 0.8, gamma 0.25. Testing set CV score: 0.321758
C 4096.0, epsilon 0.9, gamma 0.015625. Testing set CV score: 0.311705
C 4096.0, epsilon 0.9, gamma 0.03125. Testing set CV score: 0.321563
C 4096.0, epsilon 0.9, gamma 0.0625. Testing set CV score: 0.316313
C 4096.0, epsilon 0.9, gamma 0.125. Testing set CV score: 0.324934
C 4096.0, epsilon 0.9, gamma 0.25. Testing set CV score: 0.320366
C 4096.0, epsilon 1.0, gamma 0.015625. Testing set CV score: 0.320876
C 4096.0, epsilon 1.0, gamma 0.03125. Testing set CV score: 0.319284
C 4096.0, epsilon 1.0, gamma 0.0625. Testing set CV score: 0.331216
C 4096.0, epsilon 1.0, gamma 0.125. Testing set CV score: 0.327744
C 4096.0, epsilon 1.0, gamma 0.25. Testing set CV score: 0.323986
C 4096.0, epsilon 1.1, gamma 0.015625. Testing set CV score: 0.323106
C 4096.0, epsilon 1.1, gamma 0.03125. Testing set CV score: 0.324597
C 4096.0, epsilon 1.1, gamma 0.0625. Testing set CV score: 0.331263
C 4096.0, epsilon 1.1, gamma 0.125. Testing set CV score: 0.327867
C 4096.0, epsilon 1.1, gamma 0.25. Testing set CV score: 0.323871
C 4096.0, epsilon 1.2, gamma 0.015625. Testing set CV score: 0.325264
C 4096.0, epsilon 1.2, gamma 0.03125. Testing set CV score: 0.329016
C 4096.0, epsilon 1.2, gamma 0.0625. Testing set CV score: 0.331467
C 4096.0, epsilon 1.2, gamma 0.125. Testing set CV score: 0.329192
C 4096.0, epsilon 1.2, gamma 0.25. Testing set CV score: 0.324445
C 4096.0, epsilon 1.3, gamma 0.015625. Testing set CV score: 0.324746
```

```
C 4096.0, epsilon 1.3, gamma 0.03125. Testing set CV score: 0.328404
C 4096.0, epsilon 1.3, gamma 0.0625. Testing set CV score: 0.333054
C 4096.0, epsilon 1.3, gamma 0.125. Testing set CV score: 0.326912
C 4096.0, epsilon 1.3, gamma 0.25. Testing set CV score: 0.322330
C 4096.0, epsilon 1.4, gamma 0.015625. Testing set CV score: 0.326880
C 4096.0, epsilon 1.4, gamma 0.03125. Testing set CV score: 0.332684
C 4096.0, epsilon 1.4, gamma 0.0625. Testing set CV score: 0.326154
C 4096.0, epsilon 1.4, gamma 0.125. Testing set CV score: 0.329840
C 4096.0, epsilon 1.4, gamma 0.25. Testing set CV score: 0.313596
C 4096.0, epsilon 1.5, gamma 0.015625. Testing set CV score: 0.327015
C 4096.0, epsilon 1.5, gamma 0.03125. Testing set CV score: 0.332209
BEST! -> C 4096.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.337199
C 4096.0, epsilon 1.5, gamma 0.125. Testing set CV score: 0.332093
C 4096.0, epsilon 1.5, gamma 0.25. Testing set CV score: 0.310998
C 4096.0, epsilon 1.6, gamma 0.015625. Testing set CV score: 0.327966
C 4096.0, epsilon 1.6, gamma 0.03125. Testing set CV score: 0.332944
C 4096.0, epsilon 1.6, gamma 0.0625. Testing set CV score: 0.333957
C 4096.0, epsilon 1.6, gamma 0.125. Testing set CV score: 0.324960
C 4096.0, epsilon 1.6, gamma 0.25. Testing set CV score: 0.309463
C 4096.0, epsilon 1.7, gamma 0.015625. Testing set CV score: 0.321865
C 4096.0, epsilon 1.7, gamma 0.03125. Testing set CV score: 0.333841
C 4096.0, epsilon 1.7, gamma 0.0625. Testing set CV score: 0.332373
C 4096.0, epsilon 1.7, gamma 0.125. Testing set CV score: 0.320710
C 4096.0, epsilon 1.7, gamma 0.25. Testing set CV score: 0.314014
C 4096.0, epsilon 1.8, gamma 0.015625. Testing set CV score: 0.323865
C 4096.0, epsilon 1.8, gamma 0.03125. Testing set CV score: 0.333357
C 4096.0, epsilon 1.8, gamma 0.0625. Testing set CV score: 0.334100
C 4096.0, epsilon 1.8, gamma 0.125. Testing set CV score: 0.320736
C 4096.0, epsilon 1.8, gamma 0.25. Testing set CV score: 0.311836
C 4096.0, epsilon 1.9, gamma 0.015625. Testing set CV score: 0.324098
```

C 4096.0, epsilon 1.9, gamma 0.03125. Testing set CV score: 0.330953 C 4096.0, epsilon 1.9, gamma 0.0625. Testing set CV score: 0.328280 C 4096.0, epsilon 1.9, gamma 0.125. Testing set CV score: 0.325647 C 4096.0, epsilon 1.9, gamma 0.25. Testing set CV score: 0.304696

C 4096.0, epsilon 2.0, gamma 0.015625. Testing set CV score: 0.328480

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C 4096.0, epsilon 2.0, gamma 0.03125. Testing set CV score: 0.327605
C 4096.0, epsilon 2.0, gamma 0.0625. Testing set CV score: 0.330663
C 4096.0, epsilon 2.0, gamma 0.125. Testing set CV score: 0.310898
C 4096.0, epsilon 2.0, gamma 0.25. Testing set CV score: 0.307029
C 4096.0, epsilon 2.1, gamma 0.015625. Testing set CV score: 0.325797
C 4096.0, epsilon 2.1, gamma 0.03125. Testing set CV score: 0.329045
C 4096.0, epsilon 2.1, gamma 0.0625. Testing set CV score: 0.318067
C 4096.0, epsilon 2.1, gamma 0.125. Testing set CV score: 0.320567
C 4096.0, epsilon 2.1, gamma 0.25. Testing set CV score: 0.304094
C 4096.0, epsilon 2.2, gamma 0.015625. Testing set CV score: 0.325915
C 4096.0, epsilon 2.2, gamma 0.03125. Testing set CV score: 0.332270
C 4096.0, epsilon 2.2, gamma 0.0625. Testing set CV score: 0.322133
C 4096.0, epsilon 2.2, gamma 0.125. Testing set CV score: 0.309985
C 4096.0, epsilon 2.2, gamma 0.25. Testing set CV score: 0.295866
C 4096.0, epsilon 2.3, gamma 0.015625. Testing set CV score: 0.325161
C 4096.0, epsilon 2.3, gamma 0.03125. Testing set CV score: 0.322741
C 4096.0, epsilon 2.3, gamma 0.0625. Testing set CV score: 0.317927
C 4096.0, epsilon 2.3, gamma 0.125. Testing set CV score: 0.300998
C 4096.0, epsilon 2.3, gamma 0.25. Testing set CV score: 0.295527
C 4096.0, epsilon 2.4, gamma 0.015625. Testing set CV score: 0.322489
C 4096.0, epsilon 2.4, gamma 0.03125. Testing set CV score: 0.306296
C 4096.0, epsilon 2.4, gamma 0.0625. Testing set CV score: 0.307875
C 4096.0, epsilon 2.4, gamma 0.125. Testing set CV score: 0.299613
C 4096.0, epsilon 2.4, gamma 0.25. Testing set CV score: 0.290367
C 4096.0, epsilon 2.5, gamma 0.015625. Testing set CV score: 0.322708
C 4096.0, epsilon 2.5, gamma 0.03125. Testing set CV score: 0.305156
C 4096.0, epsilon 2.5, gamma 0.0625. Testing set CV score: 0.306261
C 4096.0, epsilon 2.5, gamma 0.125. Testing set CV score: 0.291277
C 4096.0, epsilon 2.5, gamma 0.25. Testing set CV score: 0.274304
optimization finished, #iter = 467878
obj = -23636280.263751, rho = -61.915382
nSV = 3654, nBSV = 3639
======= Final BEST ========
C 4096.0, epsilon 1.5, gamma 0.0625. Testing set CV score: 0.337199
======= E out in Training ========
Training set score: 0.347368
```

======= Testing Set Score ========

Testing set score: 0.323711