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python3 run_regression.py easydata.txt 1000 0.00000001
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Results for data set 1

Learned weights were: [1.1999984313013183e-06, 8.249986298412302e-06]

Error on TRAINING set: 176

Error on TEST set: 1056

Results for data set 2

Learned weights were: [3.1999682664965486e-06, 5.124943083708652e-05]

Error on TRAINING set: 1056

Error on TEST set: 176

Total average test error: 616.0

```
python3 run_regression.py gamesite.txt 1000 0.00000001
```

Results for data set 1

Learned weights were: [6.248754214352692e-05, 0.038833460391274166]

Error on TRAINING set: 190

Error on TEST set: 1127500

Results for data set 2

Learned weights were: [0.0005976312253670233, 0.7760921858848301]

Error on TRAINING set: 85148

Error on TEST set: 191595

Total average test error: 659547.5

1. Yes there is a significant difference, specifically, the learned weights for the initial dataset were [6.248754214352692e-05, 0.038833460391274166], whereas the weights for the subsequent dataset were [0.0005976312253670233, 0.7760921858848301]. This variation in the learned weights could possibly be attributed to dissimilarities in the data patterns and distributions across the two segments of the dataset.

2. Yes, Yes, the training error is significantly smaller than the test error, indicating that the regression model has been overfitted to the training data and is unable to generalize to new data.
3. Based on the results, the high test errors and considerable difference between the training and test errors, it is reasonable to anticipate poor performance of the regression on new data. The model's overfitting to the training data and its limited generalization abilities suggest that it may not be an appropriate fit for capturing the underlying relationship in the data.