126 Data Project, Step 4

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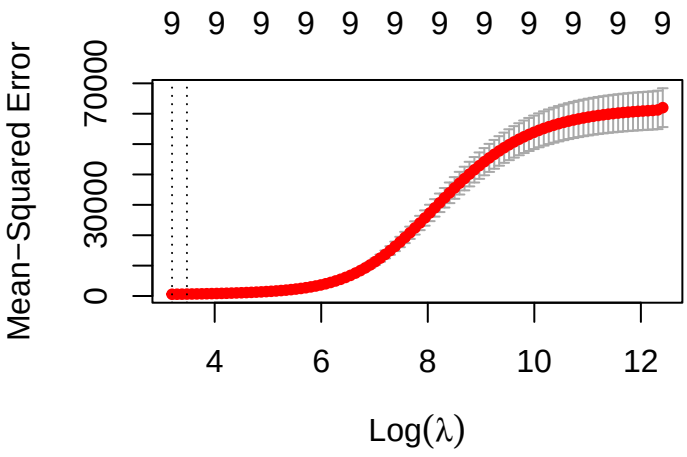
Ridge Regression

Fit the Ridge Regression Model

```
##           Length Class     Mode
## a0        100    -none-    numeric
## beta      900    dgCMatrix S4
## df        100    -none-    numeric
## dim         2    -none-    numeric
## lambda    100    -none-    numeric
## dev.ratio 100    -none-    numeric
## nulldev     1    -none-    numeric
## npasses     1    -none-    numeric
## jerr        1    -none-    numeric
## offset      1    -none-    logical
## call        4    -none-    call
## nobs        1    -none-    numeric
```

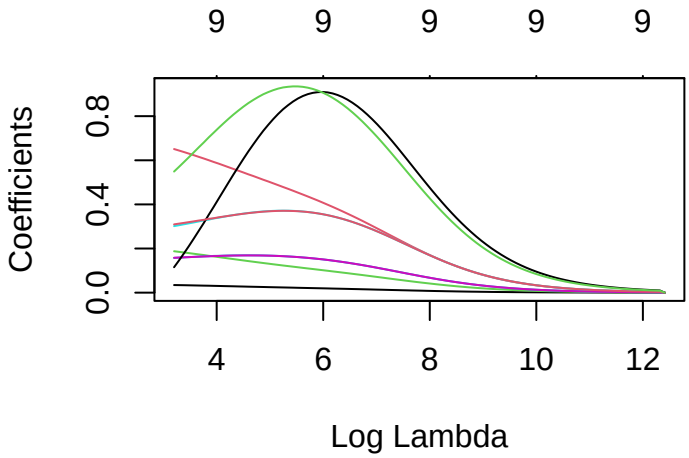
Choose an Optimal Value for Lambda

```
## [1] 24.53741
```



The lambda value that minimizes the test MSE is 24.53741.

Analyze Final Model




```
## [1] 0.9913522
```

The R-Squared is 0.9914, so the best model explains 99.14% of the variation in the response values.

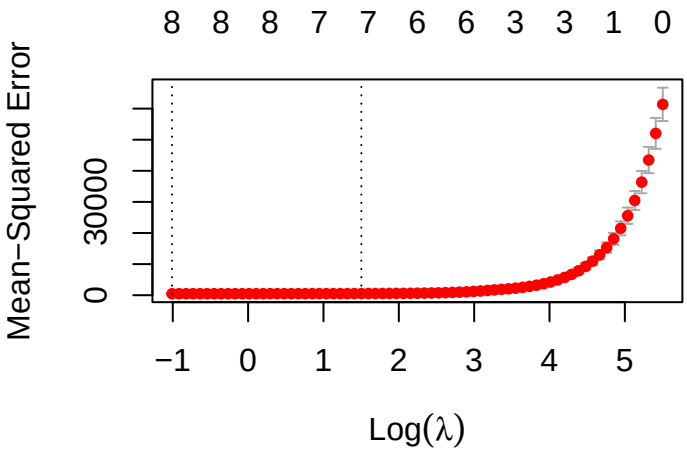
LASSO

Fit the Lasso Regression Model

```
##           Length Class     Mode
## a0         71    -none-    numeric
## beta      639    dgCMatrix S4
## df         71    -none-    numeric
## dim         2    -none-    numeric
## lambda     71    -none-    numeric
## dev.ratio  71    -none-    numeric
## nulldev     1    -none-    numeric
## npasses     1    -none-    numeric
## jerr        1    -none-    numeric
## offset      1    -none-    logical
## call        4    -none-    call
## nobs        1    -none-    numeric
```

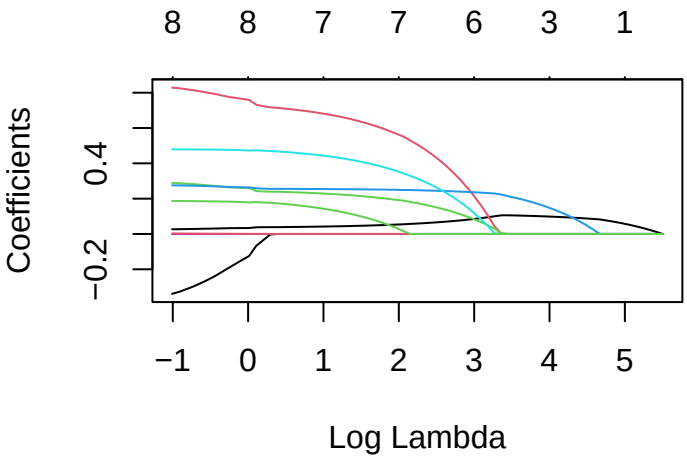
Choose an Optimal Value for Lambda

```
## [1] 0.3643727
```



The lambda value that minimizes the test MSE is 0.364.

Analyze Final Model




```
## [1] 0.9935687
```

The R-Squared is 0.9936, so the best model explains 99.36% of the variation in the response values.