STA 325 Case Study

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```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.5
## v forcats   1.0.0     v stringr   1.5.1
## v ggplot2   3.5.1     v tibble    3.2.1
## v lubridate 1.9.3     v tidyr     1.3.1
## v purrr     1.0.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
## Loading required package: Matrix
##
##
## Attaching package: 'Matrix'
##
##
## The following objects are masked from 'package:tidyr':
##
##     expand, pack, unpack
##
##
## Loaded glmnet 4.1-8
##
## Loading required package: lattice
##
##
## Attaching package: 'caret'
##
##
## The following object is masked from 'package:purrr':
##
##     lift
##
##
##
## Attaching package: 'boot'
##
##
## The following object is masked from 'package:lattice':
##
##     melanoma
##
##
##
## Attaching package: 'olsrr'
```

```
##
##
## The following object is masked from 'package:datasets':
##
##     rivers
##
##
##
## Attaching package: 'MASS'
##
##
## The following object is masked from 'package:olsrr':
##
##     cement
##
##
## The following object is masked from 'package:dplyr':
##
##     select
```

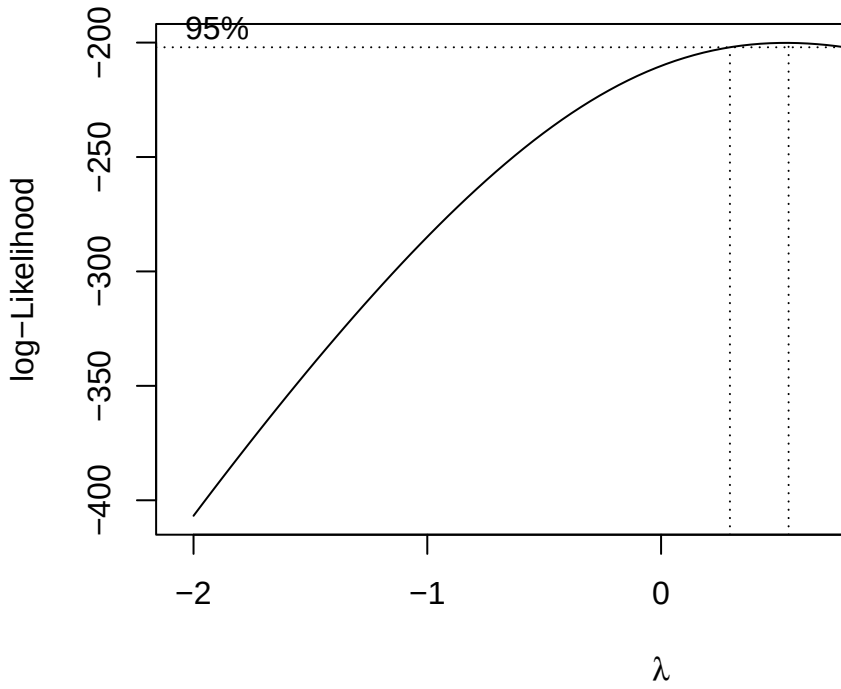
Introduction

Exploratory Data Analysis

Methodology

Skew

Before modeling Skewness, we first transformed the response variable after looking at the distribution of skew



as well as the results from a Box-Cox transformation

Results

Conclusion