Lab11

2024-11-24

1.

Summarize your findings from examining the pairwise scatterplots and correlation matrix.

2.

Discuss whether the VIFs indicate any explanatory variables exhibiting extreme multicollinearity.

3.

Summarize the backward elimination method of model selection by providing:

(a)

An ordered list of which variable was removed from the model at each step;

(b)

A list of which variables remained in the final model;

(c)

A summary of the partial regression coefficients effects tests for the final model.

4.

Summarize the forward selection method of model selection by providing:

(a)

An ordered list of which variable was added to the model at each step;

(b)

A list of which variables never entered the final model;

(c)

A summary of the partial regression coefficients effects tests for the final model.

5.

Summarize the all-possible-subsets method of model selection by providing:

(a)

Which model would you choose based on the adjusted R^2 values?

(b)

Which model would you choose based on the Mallow's C_p criteria?

(c)

Which model would you choose based on the BIC values?

6.

Interpret the values of the estimated regression coefficients in the context of the study for:

(a)

The two values corresponding to the categorical age variable;

(b)

One of the values corresponding to the quantitative variable of your choice.

7.

Summarize your findings from examining all the residual plots used to diagnose the MLR model assumptions. Are there any assumptions that aren't met for this analysis?

8.

Summarize your findings from examining the case diagnostic values/plots. Are there any outliers, leverage points, or influential observations?