FDSAI IX

Logistic Regression. You decide to try to build your own model to predict whether it will rain tomorrow based on historical data. You use the dataset `weather.csv` to build your model. First, check for missing values and drop the observations with missing values.

1. Build a logistic regression model to predict `RainTomorrow` from `MinTemp` and `MaxTemp` as well as `Rainfall` from the current day. Interpret the coefficient for `Rainfall` in the context of the problem, as we did in the course. Also comment on the Z-value, p-value, and confidence interval for the coefficient for `Rainfall`. What about odds ratio?

2. Compare the results with the already existing classification using the confusion matrix. Calculate the accuracy and explain the result.

3. You really hate when you expect it not to rain and then it actually does. Specifically, you decide that a false negative error, i.e. predicting it won't rain when it does, is 3 times worse than a false positive, i.e. predicting it will rain when it doesn't. Evaluate the accuracy of the model using your weights.