R studio Codes

1. R code to separate the dataset into Training and Testing dataset.
   1. testset <- car[801:1436, ]
   2. trainset <- car[1:800, ]
2. R code to design the Neural network

creditnet <- neuralnet(Price~ Age\_08\_04 + KM + HP + cc + Doors + ABS + Weight + Automatic\_airco + Boardcomputer + CD\_Player + Central\_Lock + Powered\_Windows + Quarterly\_Tax + Mfr\_Guarantee,trainset, hidden = 5,rep=10,lifesign = "full",linear.output = FALSE, threshold = 0.003,algorithm = "backprop",learningrate = 0.01,act.fct = 'logistic',stepmax = 100000)

1. Code to plot the Graph for best training out of all implemented training.

plot(creditnet, rep = "best")

1. R code to copy the contents of the test dataset to a temporary dataset (Temp test) for computation of neural network.

temp\_test <- subset(testset, select = c("Age\_08\_04","KM","HP","cc","Doors","ABS", "Weight","Automatic\_airco","Boardcomputer","CD\_Player","Central\_Lock","Powered\_Windows","Quarterly\_Tax","Mfr\_Guarantee"))

1. Run the designed neural network on the temporary dataset and write the result into separate dataset called creditnet.results

creditnet.results <- compute(creditnet, temp\_test)

1. Code to compare the actual and the predicted value of the neural network and write the result

in the data frame called Results

results <- data.frame(actual = testset$Price, prediction = creditnet.results$net.result)

1. Display the results of the comparison.

View(results)

1. Export all the results to an Excel worksheet in a Desktop PC.

(To run the code install XLSX package)

write.xlsx(results, "C:/Users/Saiadithya/Desktop/Project/prediction.xlsx")

**Preprocessing codes:**

1. Code to plot the graph between the Kilometer and the Price of the car. This is used for manually verifying the correlation between the variables. This code will be executed to all the remaining variables against the Price for analyzing the dependencies.

plot(Car$KM,Car$Price)

1. Code to put Pearson correlation in R studio.

Install a library Corrplot for performing this task. Run the corr package for car dataset and put it into M dataframe. Now format the Corr plot to get better readability.

library(corrplot)

M <- cor(car)

cor(car[sapply(car, is.numeric)])

corrplot(M,is.corr = FALSE, method="color")