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#Data Analysis-8050 HW-3

#loading the dataset

rm(list = ls()) #clearing the workspace

getwd()

setwd("D:\\MATH-DA\\HW 2\\")

library(XLConnect)

my.data <- readWorksheet(loadWorkbook("SaltConc.xlsx"),sheet=1)

#########################Assignmet no 3 ##############################

# 3

mod3 <- lm(my.data) #linear regression fit

summary(mod3)

plot(mod3)

plot(my.data$Salt ~ my.data$Area , main="Scatterplot", xlab="Roadway Area",ylab="Salt Concentration")

abline(mod3)#best fit line

confint(mod3)#conf interval

new.data<-data.frame(Area=1)#x=1

predict.lm(mod3 ,new.data,interval ="confidence")#Estimate confidence interval

predict.lm(mod3 ,new.data,interval ="prediction")#Predict interval



