Lab13

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Expectations for Lab 13 The following are due at the end of the Week 13 lab period on Moodle:

- Complete Lab13 in RStudio Cloud and turn in knitted file.
- Complete Review Part 1 (started in Problem Session) and turn in a typed or scanned in copy.
- Complete Review Part 2 and turn in a typed or scanned in copy.

The following is due before the start of your Week 14 lab next week:

- Complete Review Part 3 and turn in a typed or scanned in copy.

Review Parts 1, 2, and 3 are in the Word document titled "Lab13_Review_Assignment" posted on Moodle.

Learning Objective

- Compute confidence interval for mean y value in linear regression
- Review course material
- Review R code you've used this semester

Problem 1 Linear Regression: Confidence interval for a mean y value ($\hat{y}$)

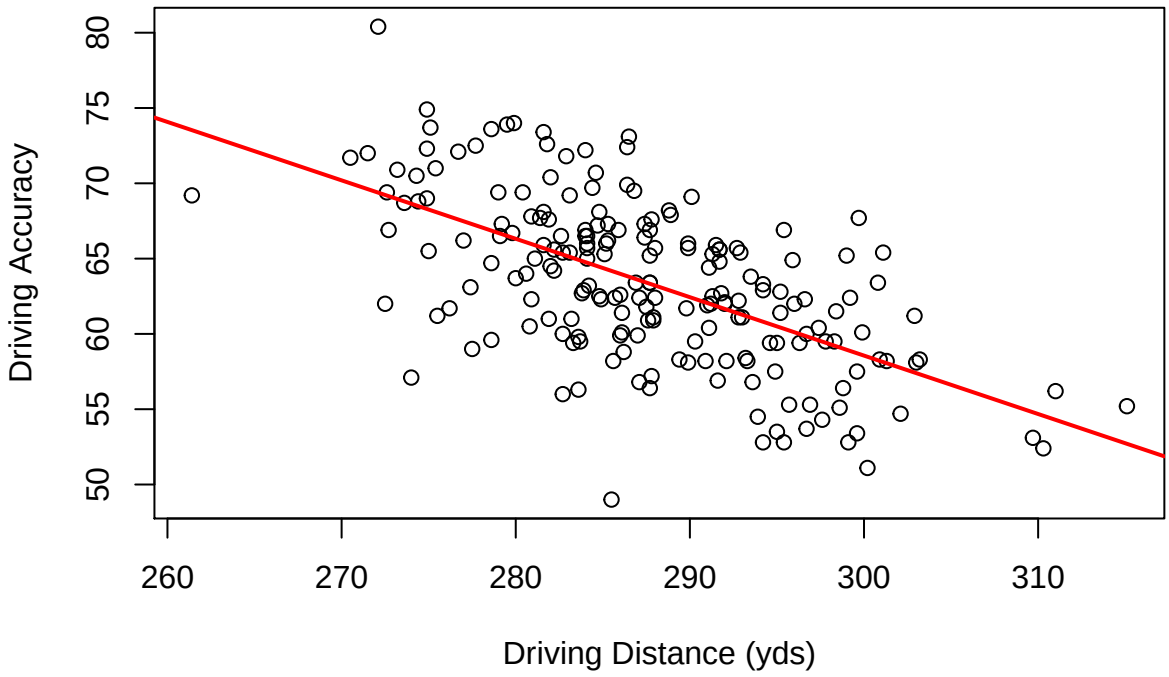
For this question we are going to look at the data from the 2008 season of Professional Golf (pga.csv), which you analyzed last week. We will be trying to predict a golfer's Fairway Accuracy (as a percentage) from their Average Driving Distance (in yards).

Use (or recreate) the linear regression model you created in Lab 12 for average accuracy percentage versus average driving distance. Comment your code.

```
pga <- read.csv("pga.csv") #reads in pga file

DD <- pga$Ave_Driving_Distance #creates driving distance variable
DA <- pga$Fairway_Accuracy #creates driving accuracy variable
L <- lm(DA~DD) #creates linear regression

plot(DD,DA,ylab = "Driving Accuracy",xlab = "Driving Distance (yds)") #plots
abline(L, col="red",lwd=2) #plots linear regression
```



Compute and interpret a 95% confidence interval for the average accuracy percentage when the average driving distance is 302.5 yards. Comment your code.

```
predict(L,data.frame(DD=302.5),interval="confidence") #computes CI for DD=302.5
```

```
##        fit      lwr     upr
## 1 57.58959 56.36068 58.8185
```

Course Review Please refer to the Word file posted on Moodle titled "Lab13_Review_Assignment". This file includes the review questions from Problem Session along with additional review questions about R. Follow the expectations instructions, written above and in the Word file.