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#R Script

#Load the data into R
data <-read.csv(file.choose(), header=TRUE)
attach(data)
data

#Descriptive stats
mean(x, na.rm= TRUE)
var(x, na.rm= TRUE)
sd(x, na.rm= TRUE)
se <- function(x) {sd(x,na.rm=TRUE)/sqrt(length(x))}
se(x)
hist(x)

#Simple Linear Regression
model1 <- lm (y~x)
model1
summary (model1)

#Scatter plot with regression line
plot(x,y,xlab="x-axis label", ylab="y-axis label")
abline(reg=model1, col ="blue")
title( sub= "Figure title")

#Multiple Linear Regression
model2 <- lm(y ~ x1 + x2 + x3)
model2
summary(model2)

#Paired t-test
t.test(A,B, paired=TRUE)

#Equal variances test
var.test(A,B)

#Unequal variance two sample t-test
t.test (A,B, paired= FALSE, var.equal=FALSE)

#Equal variance two sample t-test
t.test (A,B, paired= FALSE, var.equal=TRUE)

#Bar graph with standard error bars

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mean_A <- mean(A,na.rm= TRUE)
mean_B <- mean(B,na.rm= TRUE)
means <- c(mean_A,mean_B)
se <- function(x) {sd(x,na.rm=TRUE)/sqrt(length(x))}
se_A <- se(A)
se_B <- se(B)
standerrors <- c(se_A,se_B)
graph <- barplot(means,beside=T, ylab="y-axis
label",names=c("Group A","Group B"), ylim=c(0,50), col =
c("blue","red"))
arrows(graph,means-
standerrors,graph,means+standerrors,code=3,angle=90,length=.1,lwd
=1.3)
title(sub="Figure title")
```