Golf project

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Loading the data

```
library('readxl')
golfDataFrame=read_excel('Golf.xls')
#View(golfDataFrame)
attach(golfDataFrame)
```

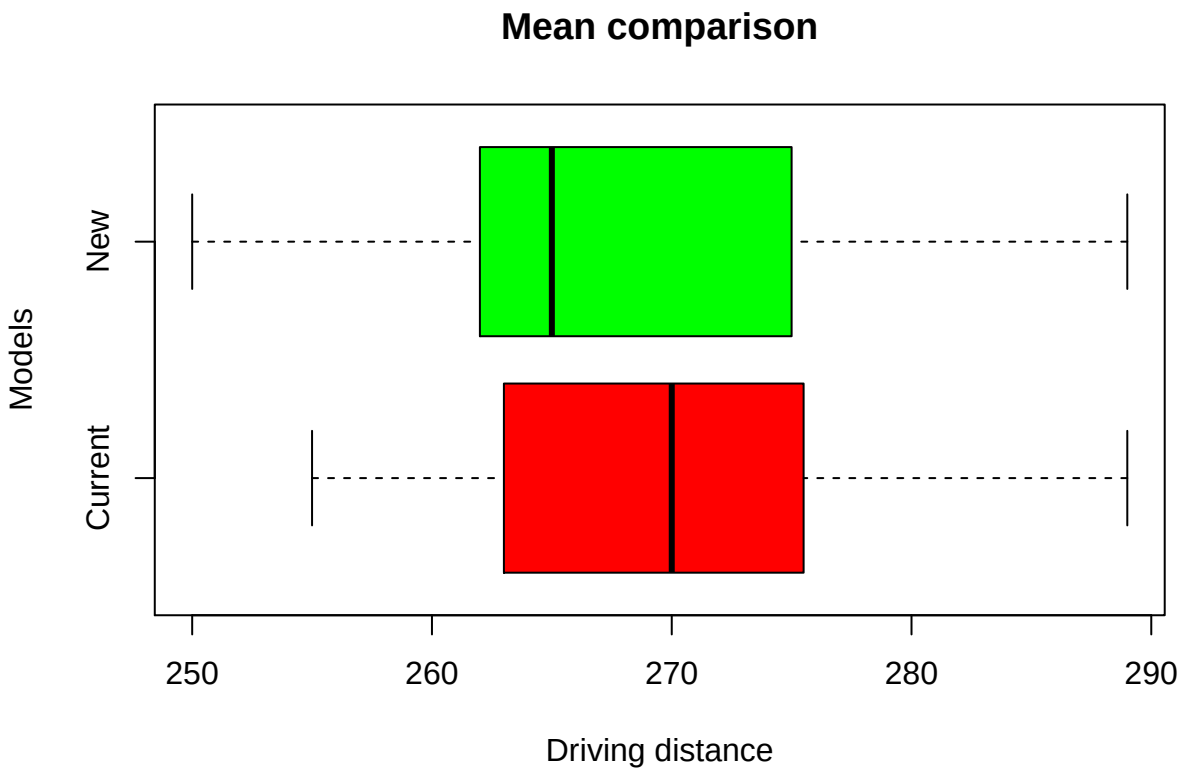
Descriptive Statistical Summaries

```
mu_C=mean(Current)
var_C=var(Current)
sd_C=sd(Current)

mu_N=mean(New)
var_N=var(New)
sd_N=sd(New)

N=40

boxplot(Current,New,col=c("Red","Green"),horizontal = TRUE,main="Mean comparison",xlab="Driving distanc
```



Hypothesis testing

```
t.test(Current,New,var.equal = TRUE)
```

```
##
##  Two Sample t-test
##
## data:  Current and New
## t = 1.3284, df = 78, p-value = 0.1879
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -1.383958  6.933958
## sample estimates:
## mean of x mean of y
##   270.275   267.500
```

```
Diff=Current-New
DiffMean=mean(Diff)
DiffSD=sd(Diff)
cohen.d=DiffMean/DiffSD
powerTest=power.t.test(n=40,cohen.d,sig.level = 0.05,power=NULL,type="two.sample",alternative = "two.si
powerTest
```

```
##
##      Two-sample t test power calculation
##
##               n = 40
##           delta = 0.2019067
##              sd = 1
##       sig.level = 0.05
##           power = 0.14274
##     alternative = two.sided
##
## NOTE: n is number in *each* group
```

```
powerTest2=power.t.test(n=NULL,cohen.d,sig.level = 0.05,power=0.90,type="two.sample",alternative = "two
powerTest2
```

```
##
##      Two-sample t test power calculation
##
##               n = 516.4577
##           delta = 0.2019067
##              sd = 1
##       sig.level = 0.05
##           power = 0.9
##     alternative = two.sided
##
## NOTE: n is number in *each* group
```

Confidence interval calculation

```
t.test(Current,mu=mu_C)
```

```
##
##  One Sample t-test
##
## data:  Current
## t = 0, df = 39, p-value = 1
## alternative hypothesis: true mean is not equal to 270.275
## 95 percent confidence interval:
##  267.4757 273.0743
## sample estimates:
## mean of x
##   270.275
```

```
t.test(New,mu=mu_N)
```

```
##
##  One Sample t-test
##
## data:  New
## t = 0, df = 39, p-value = 1
## alternative hypothesis: true mean is not equal to 267.5
## 95 percent confidence interval:
##  264.3348 270.6652
## sample estimates:
## mean of x
##     267.5
```