Home Work 1-MATH 588

Md Ismail Hossain

1/27/2022

1(a)

```
library(readr)
fullBumpus <- read_table2("E:/NMT MS/Spring 22/MATH 588/Home_Work/Spring-2022---MATH-588-01-Advanced-Da
```

```
## Warning: `read_table2()` was deprecated in readr 2.0.0.
## Please use `read_table()` instead.
```

```
##
## -- Column specification --------------------------------------------------------
## cols(
##   Bird = col_double(),
##   Female = col_double(),
##   Adult = col_double(),
##   Survive = col_double(),
##   Length = col_double(),
##   Alar = col_double(),
##   Weight = col_double(),
##   SkullLen = col_double(),
##   Humerus = col_double(),
##   Femur = col_double(),
##   TibTars = col_double(),
##   SkullWid = col_double(),
##   Sternum = col_double()
## )
```

```
ttst1 = t.test(Weight~Survive,var.equal=TRUE,data = fullBumpus)
ttst1
```

```
##
##  Two Sample t-test
##
## data:  Weight by Survive
## t = 2.6093, df = 134, p-value = 0.0101
## alternative hypothesis: true difference in means between group 0 and group 1 is not equal to 0
## 95 percent confidence interval:
##  0.1569291 1.1399459
## sample estimates:
## mean in group 0 mean in group 1
##        25.86094        25.21250
```

```
ttst2 = t.test(Weight~Survive,var.equal=FALSE,data = fullBumpus)
ttst2
```

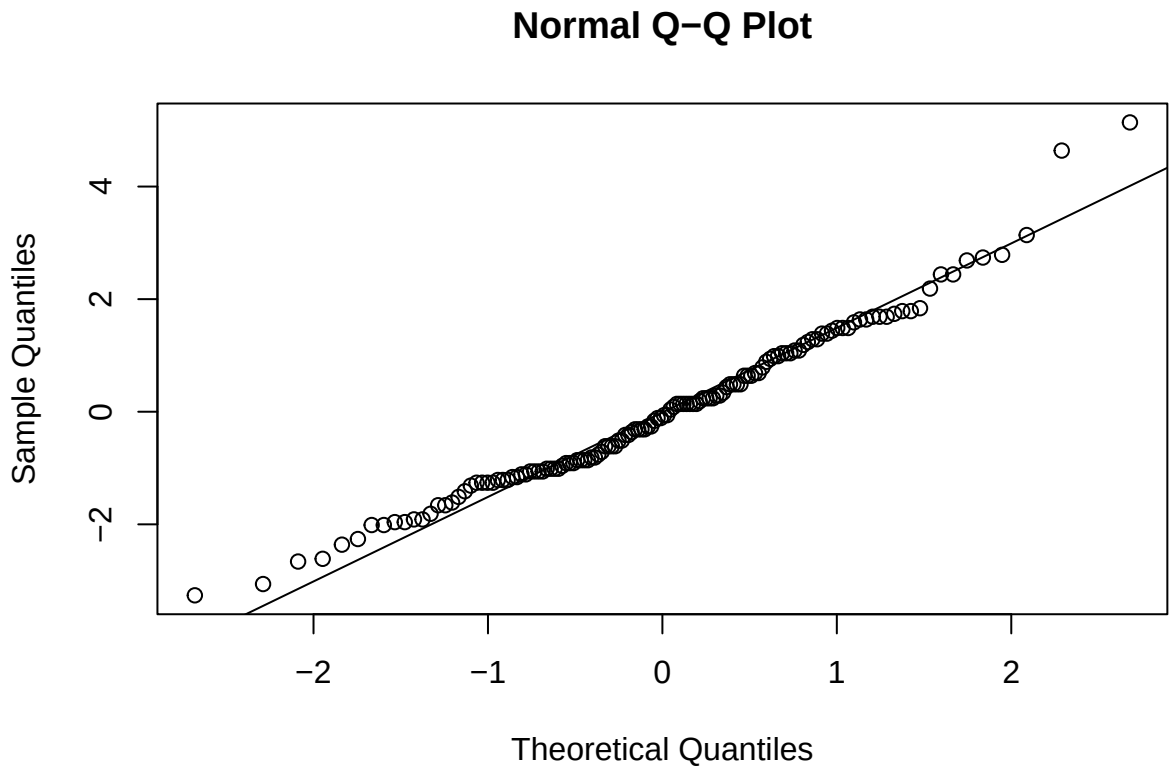
```
##
##  Welch Two Sample t-test
##
## data:  Weight by Survive
## t = 2.5703, df = 117.95, p-value = 0.01141
## alternative hypothesis: true difference in means between group 0 and group 1 is not equal to 0
## 95 percent confidence interval:
##  0.1488463 1.1480287
## sample estimates:
## mean in group 0 mean in group 1
##        25.86094        25.21250
```

1(b)

You can also embed plots, for example:

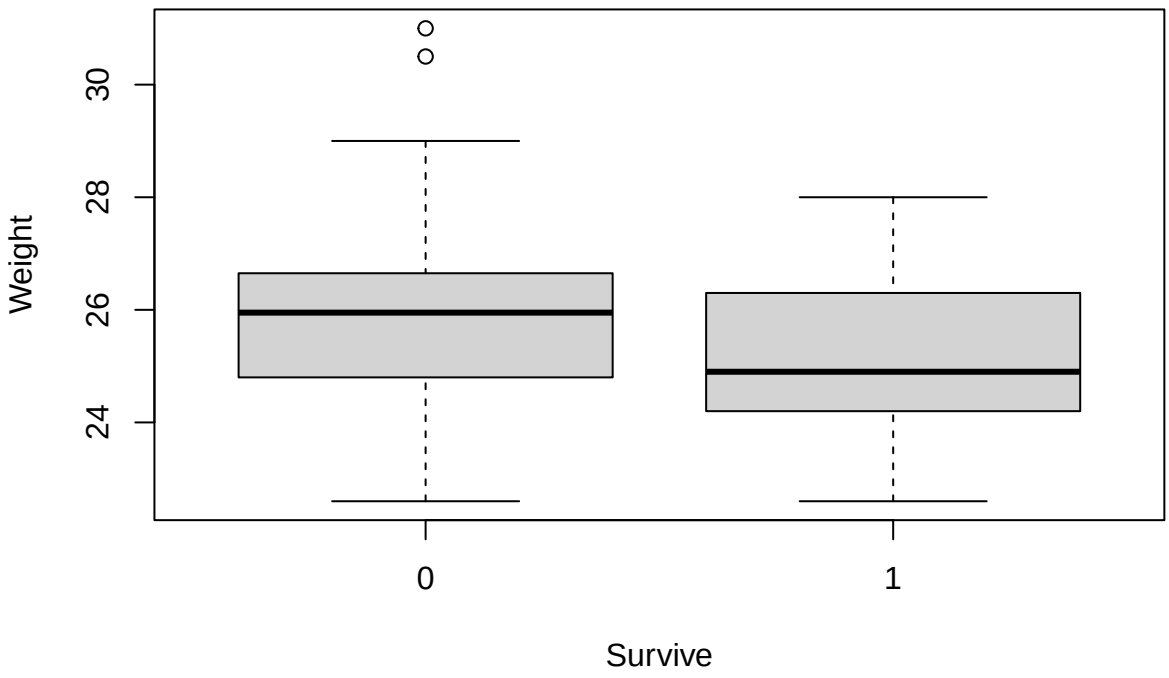
```
res = resid(lm(Weight~Survive, data = fullBumpus))

qqnorm(res)
qqline(res)
```



1(c)

```
boxplot(Weight~Survive,data=fullBumpus)
```



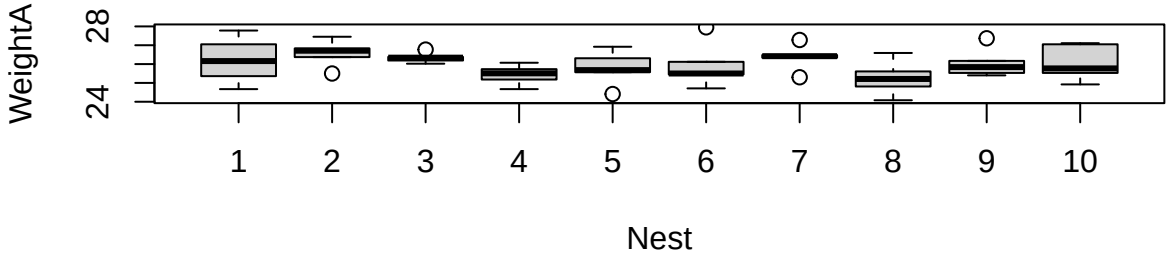
1(d)

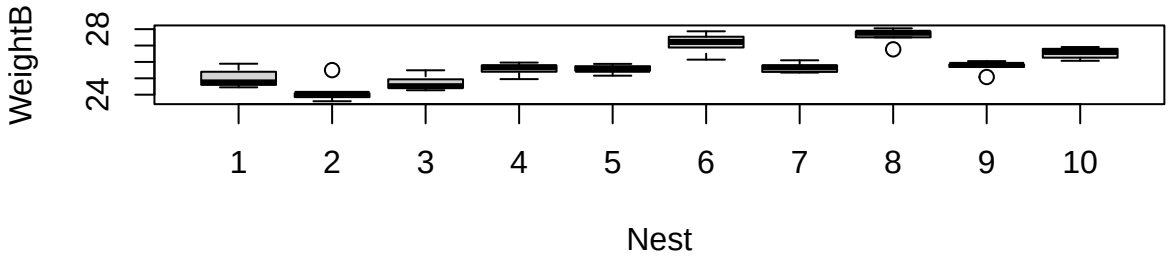
```
HW1FakeCor <- read_table2("E:/NMT MS/Spring 22/MATH 588/Home_Work/Spring-2022---MATH-588-01-Advanced-Da
```

```
## Warning: `read_table2()` was deprecated in readr 2.0.0.
## Please use `read_table()` instead.
```

```
##
## -- Column specification --------------------------------------------------------
## cols(
##   Bird = col_double(),
##   Nest = col_double(),
##   WeightA = col_double(),
##   WeightB = col_double()
## )
```

```
par(mfrow=c(2,1))
boxplot(WeightA~Nest,data=HW1FakeCor)
boxplot(WeightB~Nest,data=HW1FakeCor)
```


WeightA
24
28
1
2
3
4
5
6
7
8
9
10
Nest


WeightB
24
28
1
2
3
4
5
6
7
8
9
10
Nest