Tarea 3

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T de Student

```
setwd("C:/WorkR")
#Llamando las librerias
library(mosaic)
```

```
## Registered S3 method overwritten by 'mosaic':
##   method                           from
##   fortify.SpatialPolygonsDataFrame ggplot2
```

```
##
## The 'mosaic' package masks several functions from core packages in order to add
## additional features.  The original behavior of these functions should not be affected by this.
```

```
##
## Attaching package: 'mosaic'
```

```
## The following objects are masked from 'package:dplyr':
##
##     count, do, tally
```

```
## The following object is masked from 'package:Matrix':
##
##     mean
```

```
## The following object is masked from 'package:ggplot2':
##
##     stat
```

```
## The following objects are masked from 'package:stats':
##
##     binom.test, cor, cor.test, cov, fivenum, IQR, median, prop.test,
##     quantile, sd, t.test, var
```

```
## The following objects are masked from 'package:base':
##
##     max, mean, min, prod, range, sample, sum
```

```
library(UsingR)
```

```
## Loading required package: MASS
```

```
##
## Attaching package: 'MASS'
```

```
## The following object is masked from 'package:dplyr':
##
##     select
```

```
## Loading required package: HistData
```

```
##
## Attaching package: 'HistData'
```

```
## The following object is masked from 'package:mosaicData':
##
##     Galton
```

```
## Loading required package: Hmisc
```

```
##
## Attaching package: 'Hmisc'
```

```
## The following objects are masked from 'package:dplyr':
##
##     src, summarize
```

```
## The following objects are masked from 'package:base':
##
##     format.pval, units
```

```
## Registered S3 method overwritten by 'UsingR':
##   method        from
##   confint.htest mosaic
```

```
##
## Attaching package: 'UsingR'
```

```
## The following object is masked from 'package:mosaicData':
##
##     SAT
```

```
library(apaTables)

library(apa)
```

```
##
## Attaching package: 'apa'
```

```
## The following object is masked from 'package:mosaic':
##
##     t_test
```

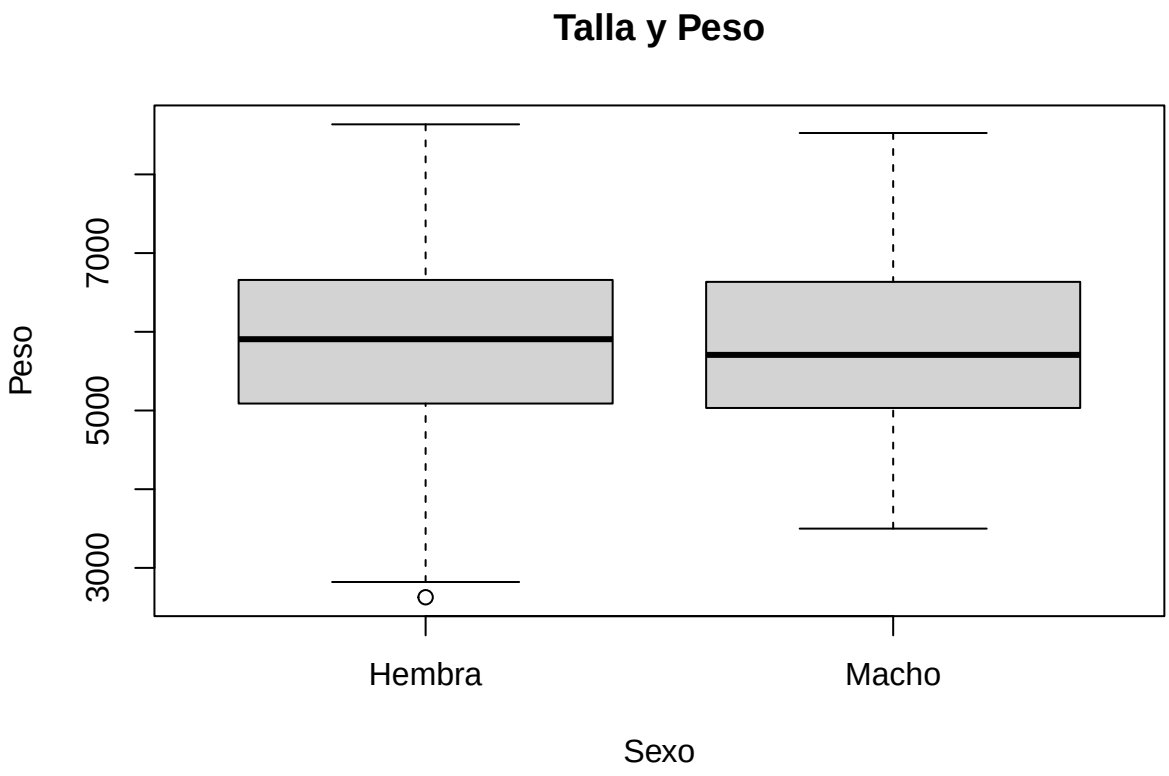
```
library(readxl)
peces <- read_excel("C:/WorkR/datos.xlsx", col_types = c("skip", "numeric", "numeric", "text"))
names(peces)
```

```
## [1] "Talla" "Peso"  "Sexo"
```

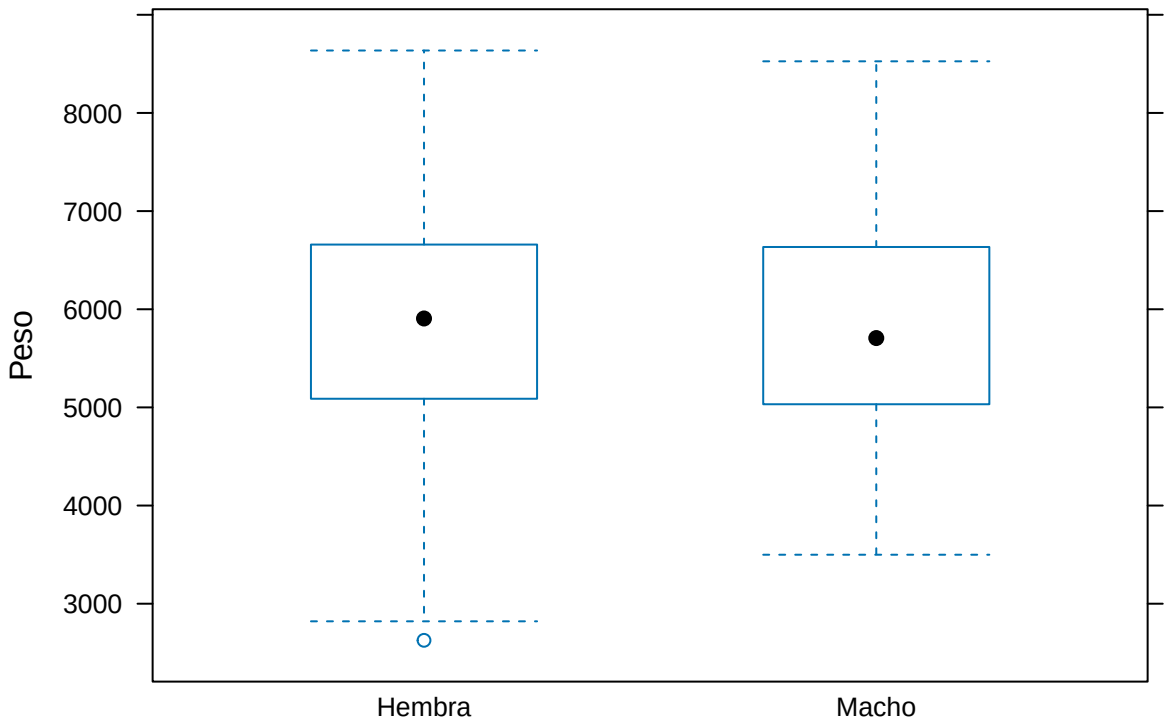
```
head(peces)
```

```
## # A tibble: 6 x 3
##   Talla  Peso Sexo
##   <dbl> <dbl> <chr>
## 1  72.3 2821. Hembra
## 2  79.8 5639. Macho
## 3  62.4 5263. Hembra
## 4  75.1 7397. Macho
## 5  85.8 6742. Macho
## 6  84.7 6755. Hembra
```

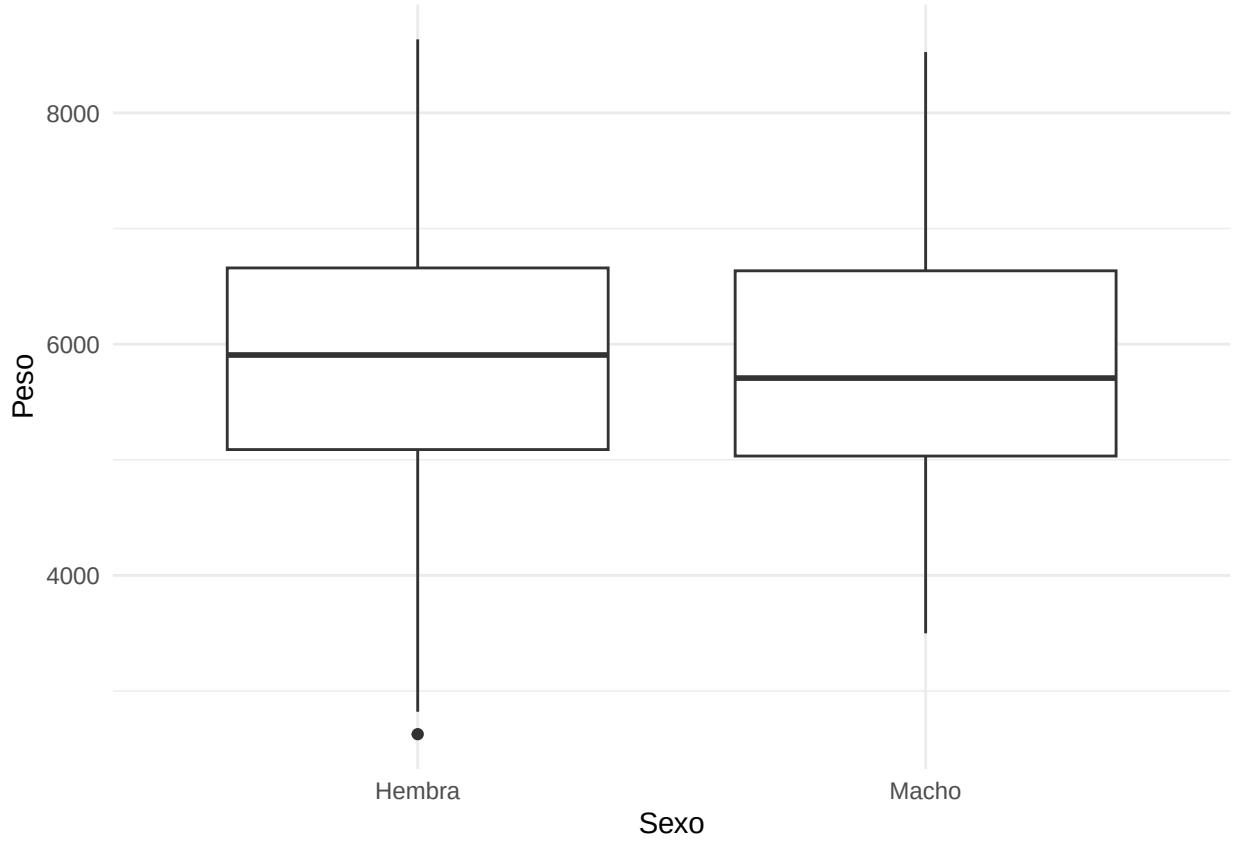
```
#Grafica de box plot
boxplot(Peso ~ Sexo, data = peces,last = 1, main = "Talla y Peso")
```



```
#boxplot2
library(lattice)
bwplot(Peso ~ Sexo, data = peces)
```




```
#boxplot3
library(ggplot2)
ggplot(peces) +  aes(x = Sexo, y = Peso) +  geom_boxplot() +  theme_minimal()
```




```
#t student
#para machos
#Ho: mu1 = mu2
#H1: mu1 diferente mu2
head(peces)
```

```
## # A tibble: 6 x 3
##   Talla  Peso Sexo
##   <dbl> <dbl> <chr>
## 1  72.3 2821. Hembra
## 2  79.8 5639. Macho
## 3  62.4 5263. Hembra
## 4  75.1 7397. Macho
## 5  85.8 6742. Macho
## 6  84.7 6755. Hembra
```

```
library(dplyr)
Machos<-peces%>% filter(Sexo=="Macho")
mosaic::t.test(Machos$Talla, Machos$Peso, var.equal = T)
```

```
##
##  Two Sample t-test
##
## data:  Machos$Talla and Machos$Peso
## t = -37.914, df = 96, p-value < 2.2e-16
```

```
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -6106.017 -5498.462
## sample estimates:
##  mean of x  mean of y
##   77.17474 5879.41437
```

```
Peces_machos<-mosaic::t.test(Machos$Talla, Machos$Peso, var.equal = T)
library(report)
report(Peces_machos)
```

```
## Effect sizes were labelled following Cohen's (1988) recommendations.
##
## The Two Sample t-test testing the difference between Machos$Talla and
## Machos$Peso (mean of x = 77.17, mean of y = 5879.41) suggests that the effect
## is negative, statistically significant, and large (difference = -5802.24, 95%
## CI [-6106.02, -5498.46], t(96) = -37.91, p < .001; Cohen's d = -7.66, 95% CI
## [-9.96, -6.50])
```

```
#Para Hembras
#Ho: mu1 = mu2
#H1: mu1 diferente mu2

head(peces)
```

```
## # A tibble: 6 x 3
##   Talla  Peso Sexo
##   <dbl> <dbl> <chr>
## 1  72.3 2821. Hembra
## 2  79.8 5639. Macho
## 3  62.4 5263. Hembra
## 4  75.1 7397. Macho
## 5  85.8 6742. Macho
## 6  84.7 6755. Hembra
```

```
library(dplyr)
Hembras<-peces%>% filter(Sexo=="Hembra")
mosaic::t.test(Hembras$Talla, Hembras$Peso, var.equal = T)
```

```
##
##  Two Sample t-test
##
## data:  Hembras$Talla and Hembras$Peso
## t = -32.447, df = 100, p-value < 2.2e-16
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -6125.546 -5419.620
## sample estimates:
##  mean of x  mean of y
##   76.88915 5849.47221
```

```r
Peces_hembra<-mosaic::t.test(Hembras$Talla, Hembras$Peso, var.equal = T)
library(report)
report(Peces_hembra)
```

```
## Effect sizes were labelled following Cohen's (1988) recommendations.
##
## The Two Sample t-test testing the difference between Hembras$Talla and
## Hembras$Peso (mean of x = 76.89, mean of y = 5849.47) suggests that the effect
## is negative, statistically significant, and large (difference = -5772.58, 95%
## CI [-6125.55, -5419.62], t(100) = -32.45, p < .001; Cohen's d = -6.43, 95% CI
## [-7.39, -5.45])
```