clase_3.R

hugop

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```r
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# Importar datos de archivo excel a la consola de R
# Funcion "read.csv"
setwd("C:/UANL_FCF/REPOSITORIOS/Exp_Met_Est_AD2023")

# Datos de Vivero -----------------------------------------------------
Vivero_IE <- read.csv("Scripts/Vivero_IE.csv", header=T)
Vivero_IE$Tratamiento <- as.factor(Vivero_IE$Tratamiento)

mean(Vivero_IE$IE)
```

```
## [1] 0.8371429
```

```r
tapply(Vivero_IE$IE, Vivero_IE$Tratamiento, mean)
```

```
##      Ctrl      Fert
## 0.7676190 0.9066667
```

```r
tapply(Vivero_IE$IE, Vivero_IE$Tratamiento, length)
```

```
## Ctrl Fert
##   21   21
```

```r
# Normalidad de datos -------------------------------------------------

# Shapiro wilks
shapiro.test (Vivero_IE$IE)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  Vivero_IE$IE
## W = 0.96225, p-value = 0.1777
```

```r
# Homogeneidad de varianza --------------------------------------------
bartlett.test(Vivero_IE$IE ~ Vivero_IE$Tratamiento)
```

```
##
##   Bartlett test of homogeneity of variances
##
## data:  Vivero_IE$IE by Vivero_IE$Tratamiento
## Bartlett's K-squared = 3.7423, df = 1, p-value = 0.05305
```

```
# Aplicar la prueba de t para muestras independientes
t.test(Vivero_IE$IE ~ Vivero_IE$Tratamiento, var.equal = T)
```

```
##
##   Two Sample t-test
##
## data:  Vivero_IE$IE by Vivero_IE$Tratamiento
## t = -2.9813, df = 40, p-value = 0.004868
## alternative hypothesis: true difference in means between group Ctrl and group Fert is not equ
al to 0
## 95 percent confidence interval:
##  -0.23331192 -0.04478332
## sample estimates:
## mean in group Ctrl mean in group Fert
##          0.7676190          0.9066667
```

```
# Prueba de t de una muestra
# Subconjunto con los datos de Ctrl y Fert

Ctrl <- subset(Vivero_IE$IE,Vivero_IE$Tratamiento == "Ctrl")
Fert <- subset(Vivero_IE$IE, Vivero_IE$Tratamiento == "FERT")

t.test(Ctrl, mu = 0.95)
```

```
##
##   One Sample t-test
##
## data:  Ctrl
## t = -7.2473, df = 20, p-value = 5.18e-07
## alternative hypothesis: true mean is not equal to 0.95
## 95 percent confidence interval:
##  0.7151253 0.8201128
## sample estimates:
## mean of x
##  0.767619
```

```
t.test(Ctrl, mu = 0.80)
```

```
##
##   One Sample t-test
##
## data:  Ctrl
## t = -1.2867, df = 20, p-value = 0.2129
## alternative hypothesis: true mean is not equal to 0.8
## 95 percent confidence interval:
##  0.7151253 0.8201128
## sample estimates:
## mean of x
##  0.767619
```

```
t.test(Ctrl, mu = 0.90)
```

```
##
##   One Sample t-test
##
## data:  Ctrl
## t = -5.2605, df = 20, p-value = 3.788e-05
## alternative hypothesis: true mean is not equal to 0.9
## 95 percent confidence interval:
##  0.7151253 0.8201128
## sample estimates:
## mean of x
##  0.767619
```