

Tarea-8.R

User

2021-09-22

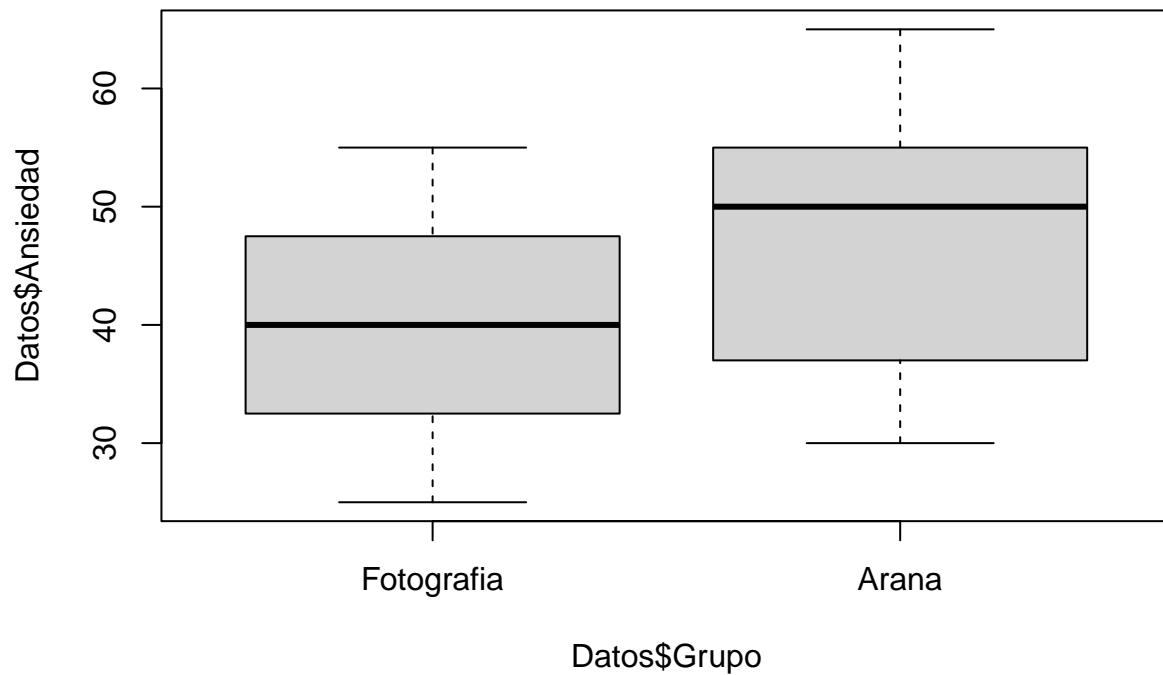
```
# Itzel Reta Heredia  
# 9/18/2021  
# 2124992  
#####
```

```
# Ejercicio 1
```

```
Grupo <- gl(2, 12, labels = c("Fotografia", "Arana"))  
Ansiedad <- c(30, 35, 45, 40, 50, 35, 55, 25, 30, 45, 40, 50, 40, 35, 50, 55,  
              65, 55, 50, 35, 30, 50, 60, 39)  
Datos <- data.frame(Gruo, Ansiedad)  
head(Datos)
```

```
##      Gruo Ansiedad  
## 1 Fotografia      30  
## 2 Fotografia      35  
## 3 Fotografia      45  
## 4 Fotografia      40  
## 5 Fotografia      50  
## 6 Fotografia      35
```

```
boxplot(Datos$Ansiedad ~ Datos$Gruo)
```



```
shapiro.test(Datos$Ansiedad)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  Datos$Ansiedad
## W = 0.96282, p-value = 0.4977
```

```
var.test(Datos$Ansiedad ~ Datos$Grupo)
```

```
##
##  F test to compare two variances
##
## data:  Datos$Ansiedad by Datos$Grupo
## F = 0.71001, num df = 11, denom df = 11, p-value = 0.5797
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  0.2043974 2.4663783
## sample estimates:
## ratio of variances
##      0.7100149
```

```
t.test(Datos$Ansiedad ~ Datos$Grupo, var.equal=TRUE)
```

```
##
##  Two Sample t-test
##
## data:  Datos$Ansiedad by Datos$Grupo
```

```
## t = -1.6813, df = 22, p-value = 0.1068
## alternative hypothesis: true difference in means between group Fotografia and group Arana is not equal to 0
## 95 percent confidence interval:
## -15.634222  1.634222
## sample estimates:
## mean in group Fotografia      mean in group Arana
##                40                47
```

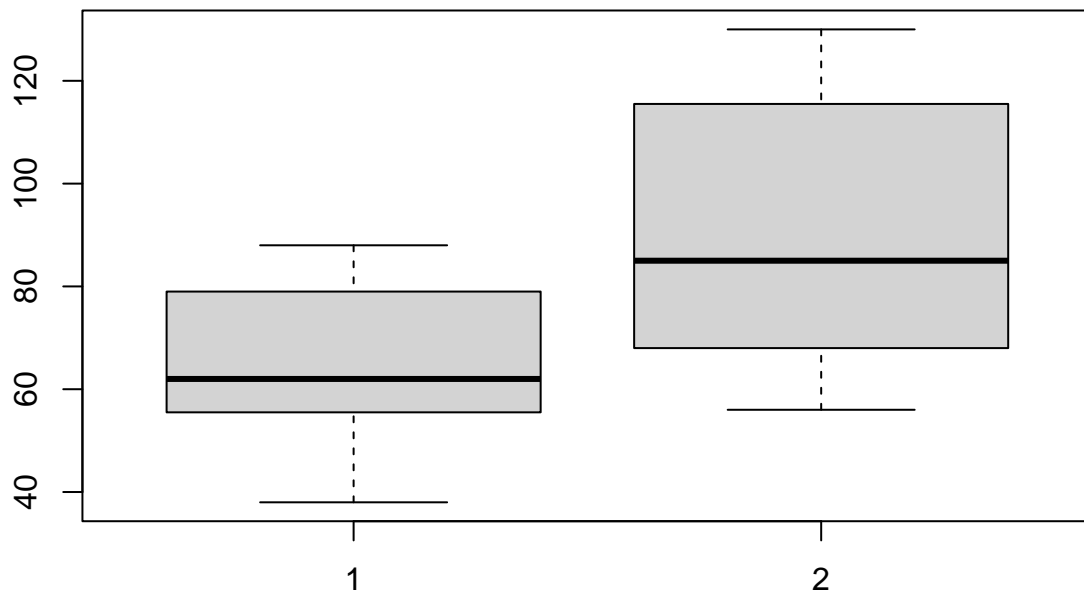
H0.(nula)= no existen diferencias entre el nivel de ansiedad entre una fotografia de una tarantula y una tarantula en vivo
H1.(alternativa) existe una diferencia entre el nivel de ansiedad entre una fotografia de una tarantula y una tarantula en vivo

Ejercicio 2

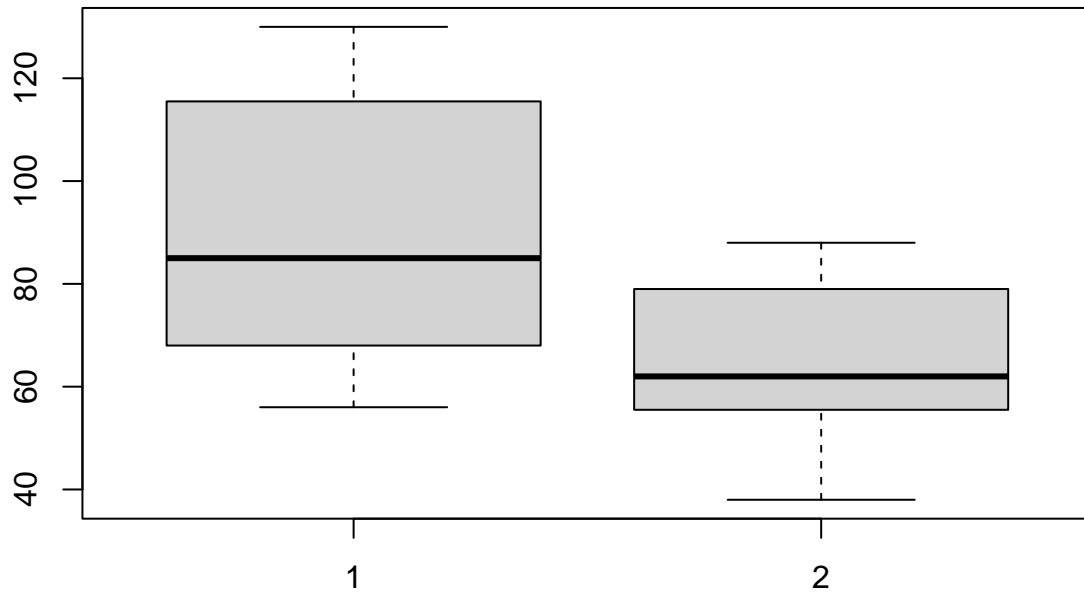
```
control <- c(130, 120, 61, 111, 93, 56, 85, 128, 73, 56, 65, 71, 109, 122, 85)
cont <- c(44, 62, 77, 58, 88, 61, 42, 57, 70, 38, 66, 82, 81, 54, 81)
pastoreo <- data.frame(control, cont)
head(pastoreo)
```

```
##   control cont
## 1    130   44
## 2    120   62
## 3     61   77
## 4    111   58
## 5     93   88
## 6     56   61
```

```
boxplot(pastoreo$cont, pastoreo$control)
```



```
boxplot(control, cont)
```



```
var.test(control, cont)
```

```
##
## F test to compare two variances
##
## data: control and cont
## F = 2.9731, num df = 14, denom df = 14, p-value = 0.05037
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
## 0.9981449 8.8555250
## sample estimates:
## ratio of variances
## 2.973062
```

```
t.test(control, cont)
```

```
##
## Welch Two Sample t-test
##
## data: control and cont
## t = 3.3362, df = 22.461, p-value = 0.002934
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## 10.21052 43.65615
## sample estimates:
```

```
## mean of x mean of y
## 91.00000 64.06667

t.test(control, cont, var.equal = TRUE, conf.level = 0.95)

##
## Two Sample t-test
##
## data: control and cont
## t = 3.3362, df = 28, p-value = 0.002407
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## 10.39622 43.47045
## sample estimates:
## mean of x mean of y
## 91.00000 64.06667

t.test(control, cont, var.equal = TRUE, conf.level = 0.99)

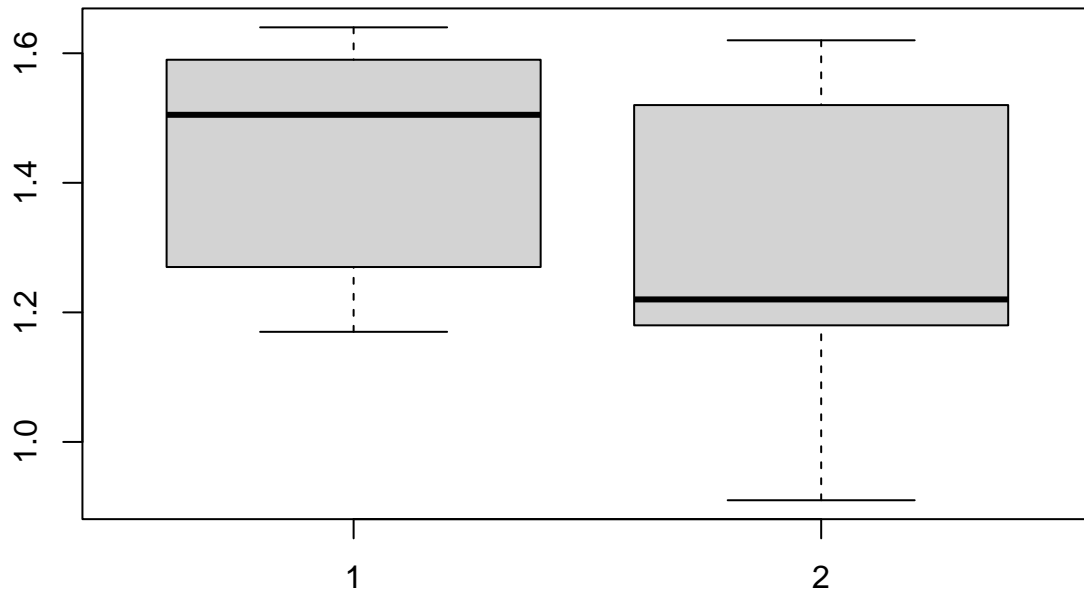
##
## Two Sample t-test
##
## data: control and cont
## t = 3.3362, df = 28, p-value = 0.002407
## alternative hypothesis: true difference in means is not equal to 0
## 99 percent confidence interval:
## 4.62508 49.24159
## sample estimates:
## mean of x mean of y
## 91.00000 64.06667

# Ejercicio 3

Suelo <- c(1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
Tiempo1 <- c(1.59, 1.39, 1.64, 1.17, 1.27, 1.58, 1.64, 1.53, 1.21, 1.48)
Tiempo2 <- c(1.21, 0.92, 1.31, 1.52, 1.62, 0.91, 1.23, 1.21, 1.58, 1.18)
Diferencia <- c(0.38, 0.47, 0.33, -0.35, -0.35, 0.67, 0.41, 0.32, -0.37, 0.30)

cuadro <- data.frame(Suelo, Tiempo1, Tiempo2, Diferencia)

boxplot(cuadro$Tiempo1, cuadro$Tiempo2)
```



```
shapiro.test(cuadro$Tiempo1)
```

```
##
##  Shapiro-Wilk normality test
##
## data:  cuadro$Tiempo1
## W = 0.88561, p-value = 0.1512
```

```
var.test(cuadro$Tiempo1, cuadro$Tiempo2)
```

```
##
##  F test to compare two variances
##
## data:  cuadro$Tiempo1 and cuadro$Tiempo2
## F = 0.52203, num df = 9, denom df = 9, p-value = 0.347
## alternative hypothesis: true ratio of variances is not equal to 1
## 95 percent confidence interval:
##  0.1296654 2.1016990
## sample estimates:
## ratio of variances
##      0.5220323
```

```
t.test(cuadro$Tiempo1, cuadro$Tiempo2, var.equal = TRUE, paired = TRUE)
```

```
##
##  Paired t-test
##
## data:  cuadro$Tiempo1 and cuadro$Tiempo2
```

```
## t = 1.4845, df = 9, p-value = 0.1718
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -0.09481109  0.45681109
## sample estimates:
## mean of the differences
##                0.181
```