**Ejercicio 1**

> D <- read.table("Dioptrias.csv",header = TRUE,sep = ";")

> D

Sexo Anomalias Izq Der Edad Horas Uso Media

1 Hombre Miopía 2 1,75 19 Más de Cuatro A veces 1,875

2 Mujer Miopía Astigmatismo 1,25 1,25 20 Más de Cuatro Sí 1,25

3 Hombre Astigmatismo 0,5 0,5 19 Más de Cuatro A veces 0,5

4 Mujer Miopía 6 6 18 Cuatro Sí 6

5 Mujer Miopía 3,75 3,5 18 Tres Sí 3,625

. . .

> t.test(as.numeric(D$Izq),as.numeric(D$Der),paired=TRUE,alternative="less")

Paired t-test

data: as.numeric(D$Izq) and as.numeric(D$Der)

t = -2.4668, df = 62, p-value = 0.008205

alternative hypothesis: true difference in means is less than 0

95 percent confidence interval:

-Inf -0.1282101

sample estimates:

mean of the differences

-0.3968254

**Ejercicio 1 (ANEXOS)**

n = 63

> mean(as.numeric(D$Izq))

[1] 7.507937

> mean(as.numeric(D$Der))

[1] 7.904762

> var(as.numeric(D$Izq))

[1] 28.15719

> var(as.numeric(D$Der))

[1] 29.02304

> cov(as.numeric(D$Izq),as.numeric(D$Der))

[1] 27.77496

> pt(-2.4668,62)

[1] 0.008204846

> pt(-2.4668,63)

[1] 0.008182096

> pt(-2.4668,63+63-2)

[1] 0.007499029

> pt(2.4668,63)

[1] 0.9918179

> pt(2.4668,62)

[1] 0.9917952

> pt(2.4668,63+63-2)

[1] 0.992501

**Ejercicio 2 (ANEXOS)**

|  |  |
| --- | --- |
| **a)**  > pf(1,5,9)  [1] 0.5304763  > pf(2,5,9)  [1] 0.8272901  > pf(1,9,5)  [1] 0.4695237  > pf(2,9,5)  [1] 0.7695913 | **b)**  > qf(0.025,5,9)  [1] 0.149677  > qf(0.05,5,9)  [1] 0.2095353  > qf(0.95,5,9)  [1] 3.481659  > qf(0.975,5,9)  [1] 4.484411  > qf(0.025,9,5)  [1] 0.2229947  > qf(0.05,9,5)  [1] 0.2872194  > qf(0.95,9,5)  [1] 4.772466  > qf(0.975,9,5)  [1] 6.681054 |

**Ejercicio 3**

> T <- read.table("Transporte.csv",header = TRUE,sep = ";",dec=",")

|  |  |
| --- | --- |
| > T  EDAD TRABAJA GASTO SEXO  1 20 0 30.50 H  2 21 1 40.00 H  3 20 0 40.00 M  4 22 1 30.50 M  5 20 0 70.00 H  . . . | > TH <- T$GASTO[T$SEXO=="H"]  > TM <- T$GASTO[T$SEXO=="M"]  > summary(T$SEXO)  H M  22 37 |

> t.test(TH,TM,alternative="two.sided",conf.level=0.9)

**Welch Two Sample t-test**

data: TH and TM

t = 1.6029, df = 44.098, p-value = 0.1161

alternative hypothesis: true difference in means is not equal to 0

90 percent confidence interval:

-0.35136 14.92458

sample estimates:

mean of x mean of y

41.81364 34.52703