**Ejercicio 1 – Hoja 8**

Superior <- c(18, 29, 70, 115)

Media <- c(17, 28, 30, 41)

Primaria <- c(11, 10, 11, 20)

Tabla1 <- as.table(rbind(Superior, Media, Primaria))

dimnames(Tabla1) <- list(c("Superior","Media","Primaria"),c("Muy bajo", " Bajo", "Alto","Muy alto"))

Tabla1

chisq.test(Tabla1)

> Tabla1

Muy bajo Bajo Alto Muy alto

Superior 18 29 70 115

Media 17 28 30 41

Primaria 11 10 11 20

> chisq.test(Tabla1)

**Pearson's Chi-squared test**

data: Tabla1

X-squared = 19.943, df = 6, p-value = 0.002835

**Ejercicio 2.**

Turno1 <- c(10, 12, 6, 7)

Turno2 <- c(10, 24, 9, 10)

Turno3 <- c(13, 20, 7, 10)

Tabla2 <- as.table(rbind(Turno1, Turno2, Turno3))

dimnames(Tabla2) <- list(c("Turno 1","Turno 2","Turno 3"),c("A", "B", "C", "D"))

Tabla2

chisq.test(Tabla2)

> Tabla2

A B C D

Turno 1 10 12 6 7

Turno 2 10 24 9 10

Turno 3 13 20 7 10

> chisq.test(Tabla2)

**Pearson's Chi-squared test**

data: Tabla2

X-squared = 1.8148, df = 6, p-value = 0.9359

**Ejercicio 3.**

Hombre <- c(1.80, 1.70, 1.73, 1.72, 1.62, 1.65, 1.74, 1.71, 1.63, 1.64, 1.68, 1.67)

Mujer <- c(1.72, 1.60, 1.76, 1.62, 1.63, 1.46, 1.68, 1.71, 1.61, 1.65, 1.66, 1.67)

correlationTest(Hombre, Mujer, "pearson")

correlationTest(Hombre, Mujer, "spearman")

correlationTest(Hombre, Mujer, "kendall")

**a)**

> correlationTest(Hombre, Mujer, "pearson")

Title:

**Pearson's Correlation Test**

Test Results:

PARAMETER:

Degrees of Freedom: 10

SAMPLE ESTIMATES:

Correlation: 0.5513

STATISTIC:

t: 2.0898

P VALUE:

Alternative Two-Sided: 0.06315

Alternative Less: 0.9684

Alternative Greater: 0.03158

CONFIDENCE INTERVAL:

Two-Sided: -0.033, 0.8548

Less: -1, 0.8238

Greater: 0.0719, 1

**b)**

> correlationTest(Hombre, Mujer, "spearman")

Title:

**Spearman's rho Correlation Test**

Test Results:

SAMPLE ESTIMATES:

rho: 0.6224

STATISTIC:

S: 108

P VALUE:

Alternative Two-Sided: 0.0348

Alternative Less: 0.9838

Alternative Greater: 0.0174

**c)**

> correlationTest(Hombre, Mujer, "kendall")

Title:

**Kendall's tau Correlation Test**

Test Results:

SAMPLE ESTIMATES:

tau: 0.4545

STATISTIC:

z: 48

T | Exact: 48

P VALUE:

Alternative Two-Sided: 0.04474

Alternative Two-Sided | Exact: 0.04474

Alternative Less: 0.9845

Alternative Less | Exact: 0.9845

Alternative Greater: 0.02237

Alternative Greater | Exact: 0.02237

**Ejercicio 4.**

America <- c(6.6, 4.1, 2.1, 1.5, 0.8)

Africa <- c(2.3, 2.4, 1.2, 1.3, 0.7)

correlationTest(America, Africa, "pearson")

correlationTest(America, Africa, "spearman")

correlationTest(America, Africa, "kendall")

**a)**

> correlationTest(America, Africa, "pearson")

Title:

**Pearson's Correlation Test**

Test Results:

PARAMETER:

Degrees of Freedom: 3

SAMPLE ESTIMATES:

Correlation: 0.8911

STATISTIC:

t: 3.401

P VALUE:

Alternative Two-Sided: 0.04243

Alternative Less: 0.9788

Alternative Greater: 0.02121

CONFIDENCE INTERVAL:

Two-Sided: 0.0413, 0.9928

Less: -1, 0.9888

Greater: 0.2582, 1

**b)**

> correlationTest(America, Africa, "spearman")

Title:

**Spearman's rho Correlation Test**

Test Results:

SAMPLE ESTIMATES:

rho: 0.8

STATISTIC:

S: 4

P VALUE:

Alternative Two-Sided: 0.1333

Alternative Less: 0.9583

Alternative Greater: 0.06667

**c)**

> correlationTest(America, Africa, "kendall")

Title:

**Kendall's tau Correlation Test**

Test Results:

SAMPLE ESTIMATES:

tau: 0.6

STATISTIC:

z: 8

T | Exact: 8

P VALUE:

Alternative Two-Sided: 0.2333

Alternative Two-Sided | Exact: 0.2333

Alternative Less: 0.9583

Alternative Less | Exact: 0.9583

Alternative Greater: 0.1167

Alternative Greater | Exact: 0.1167

**Ejercicio 5.**

Nota1 <- c(96, 112, 115, 98, 95, 110)

Nota2 <- c(99, 110, 111, 103, 90, 95)

correlationTest(Nota1, Nota2, "pearson")

correlationTest(Nota1, Nota2, "spearman")

correlationTest(Nota1, Nota2, "kendall")

**a)**

> correlationTest(Nota1, Nota2, "pearson")

Title:

**Pearson's Correlation Test**

Test Results:

PARAMETER:

Degrees of Freedom: 4

SAMPLE ESTIMATES:

Correlation: 0.6671

STATISTIC:

t: 1.7907

P VALUE:

Alternative Two-Sided: 0.1478

Alternative Less: 0.9261

Alternative Greater: 0.07391

CONFIDENCE INTERVAL:

Two-Sided: -0.3151, 0.9593

Less: -1, 0.942

Greater: -0.1432, 1

**b)**

> correlationTest(Nota1, Nota2, "spearman")

Title:

**Spearman's rho Correlation Test**

Test Results:

SAMPLE ESTIMATES:

rho: 0.8286

STATISTIC:

S: 6

P VALUE:

Alternative Two-Sided: 0.05833

Alternative Less: 0.9833

Alternative Greater: 0.02917

**c)**

> correlationTest(Nota1, Nota2, "kendall")

Title:

**Kendall's tau Correlation Test**

Test Results:

SAMPLE ESTIMATES:

tau: 0.7333

STATISTIC:

z: 13

T | Exact: 13

P VALUE:

Alternative Two-Sided: 0.05556

Alternative Two-Sided | Exact: 0.05556

Alternative Less: 0.9917

Alternative Less | Exact: 0.9917

Alternative Greater: 0.02778

Alternative Greater | Exact: 0.02778