

HW-5.R

Usuario

2022-04-28

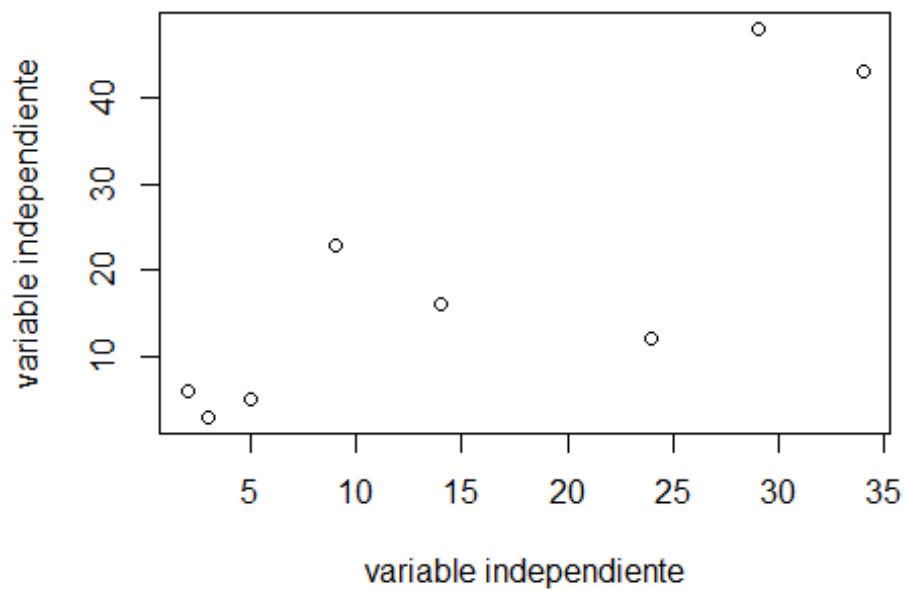
```
# Clase  
# 28/04/2022
```

```
# PRIMER PROBLEMA -----
```

```
--
```

```
Speed <- c(2, 3, 5, 9, 14, 24, 29, 34)  
Abundance <- c(6, 3, 5, 23, 16, 12, 48, 43)
```

```
plot(Speed, Abundance, xlab = "variable independiente", ylab = "variable  
independiente")
```



```
cor.test(Speed, Abundance)
```

```

##
## Pearson's product-moment correlation
##
## data: Speed and Abundance
## t = 3.8568, df = 6, p-value = 0.008393
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## 0.3442317 0.9711386
## sample estimates:
## cor
## 0.8441408

# valor de r = 0.8441408
# valor de p = 0.008393
# Hipotesis aceptada = hipotesis alternativa
# Grados de libertad = 6
# Valor de t = 3.8568
# 95 percent confidence interval:
# 0.3442317 0.9711386

# H0 <- No existe una correlación entre la velocidad del arroyo y la
# abundancia de
# efímeras.

# H1 <- Existe una correlación positiva entre la velocidad de los arroyos
# y la abundancia
# de efímeras (Ecdyonurus dispar)

# ¿Es estadísticamente significativa la correlación?
# Si

# SEGUNDO PROBLEMA -----
--

Suelo <- read.csv("suelo.csv")

cor.test(Suelo$pH, Suelo$N)

##
## Pearson's product-moment correlation
##
## data: Suelo$pH and Suelo$N
## t = 5.5994, df = 46, p-value = 1.149e-06
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## 0.4303716 0.7797377
## sample estimates:
## cor
## 0.636654

```

```

# valor de p = 1.149e-06
# valor de r = 0.636654

cor.test(Suelo$pH, Suelo$Dens)

##
## Pearson's product-moment correlation
##
## data: Suelo$pH and Suelo$Dens
## t = -4.9436, df = 46, p-value = 1.062e-05
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## -0.7479775 -0.3661760
## sample estimates:
## cor
## -0.5890264

# valor de p = 1.062e-05
# valor de r = -0.5890264

cor.test(Suelo$pH, Suelo$P)

##
## Pearson's product-moment correlation
##
## data: Suelo$pH and Suelo$P
## t = 4.9694, df = 46, p-value = 9.74e-06
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## 0.3688348 0.7493286
## sample estimates:
## cor
## 0.5910303

# valor de p = 9.74e-06
# valor de r = 0.5910303

cor.test(Suelo$pH, Suelo$Ca)

##
## Pearson's product-moment correlation
##
## data: Suelo$pH and Suelo$Ca
## t = 9.3221, df = 46, p-value = 3.614e-12
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## 0.6809493 0.8885997
## sample estimates:
## cor
## 0.8086293

```

```

# valor de p = 3.614e-12
# valor de r = 0.8086293

cor.test(Suelo$pH, Suelo$Mg)

##
## Pearson's product-moment correlation
##
## data: Suelo$pH and Suelo$Mg
## t = -2.923, df = 46, p-value = 0.005361
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## -0.6111857 -0.1257936
## sample estimates:
## cor
## -0.3957821

# valor de p = 0.005361
# valor de r = -0.3957821

cor.test(Suelo$pH, Suelo$K)

##
## Pearson's product-moment correlation
##
## data: Suelo$pH and Suelo$K
## t = 4.8236, df = 46, p-value = 1.585e-05
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## 0.3536810 0.7415855
## sample estimates:
## cor
## 0.5795727

# valor de p = 1.585e-05
# valor de r = 0.5795727

cor.test(Suelo$pH, Suelo$Na)

##
## Pearson's product-moment correlation
##
## data: Suelo$pH and Suelo$Na
## t = -6.5242, df = 46, p-value = 4.724e-08
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## -0.8165520 -0.5094849
## sample estimates:
## cor
## -0.6932614

```

```
# valor de p = 4.724e-08
# valor de r = -0.6932614

cor.test(Suelo$pH, Suelo$Conduc)

##
## Pearson's product-moment correlation
##
## data: Suelo$pH and Suelo$Conduc
## t = -8.0515, df = 46, p-value = 2.484e-10
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
## -0.8616916 -0.6141322
## sample estimates:
## cor
## -0.7648104

# valor de p = 2.484e-10
# valor de r = -0.7648104
```