

06_ACT_CORRELACION.R

Usuario

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```
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#Correlacion  
#02/10/23
```

```
library (repmis)  
erupciones <-  
source_data("https://www.dropbox.com/s/liir6sil7hkqlxs/erupciones.csv?dl=1")
```

```
## Downloading data from:  
https://www.dropbox.com/s/liir6sil7hkqlxs/erupciones.csv?dl=1
```

```
## SHA-1 hash of the downloaded data file is:  
## b07708389ddf62ee20d19c759c88d7dc2d0da3ac
```

```
# Estadística descriptiva -----  
--
```

```
mean(erupciones$eruptions)
```

```
## [1] 3.487783
```

```
var(erupciones$eruptions)
```

```
## [1] 1.302728
```

```
sd (erupciones$eruptions)
```

```
## [1] 1.141371
```

```
mean(erupciones$ waiting)
```

```
## [1] 70.89706
```

```
var(erupciones$waiting)
```

```
## [1] 184.8233
```

```
sd (erupciones$waiting)
```

```
## [1] 13.59497
```

```
# hipótesis -----  
--
```

```
t.test (erupciones$eruptions, erupciones$waiting)
```

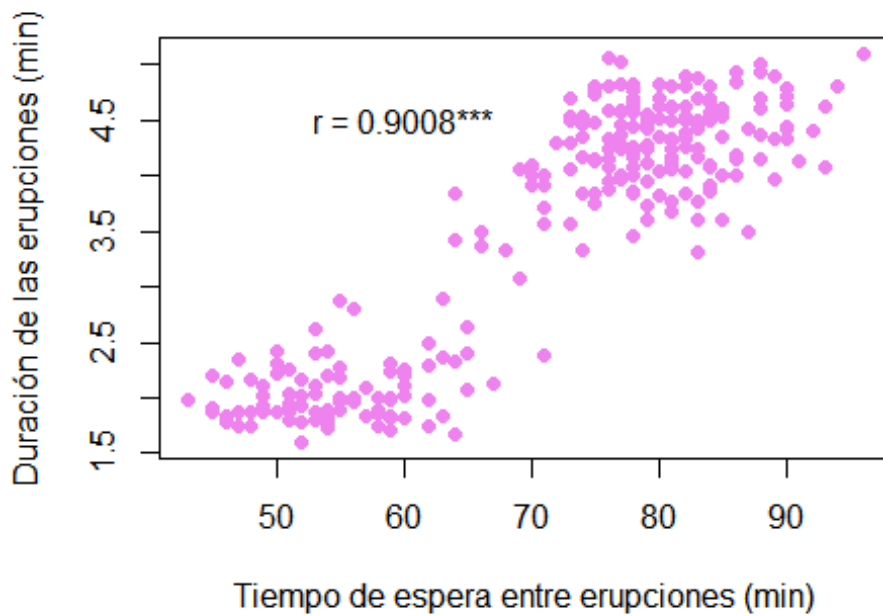
```
##  
## Welch Two Sample t-test  
##  
## data: erupciones$eruptions and erupciones$waiting  
## t = -81.489, df = 274.82, p-value < 2.2e-16  
## alternative hypothesis: true difference in means is not equal to 0  
## 95 percent confidence interval:  
## -69.03776 -65.78079  
## sample estimates:  
## mean of x mean of y  
## 3.487783 70.897059
```

#hipotesis nula: entre mas tiempo de espera, menor sera La duracion de las erupciones

#hipotesis alternativa: entre mas tiempo de espera, mayor sera La duracion de las erupciones.

#hipotesis aceptad : hipotesis altrnativa

```
# correlacion -----  
--  
plot(erupciones$waiting,erupciones$eruptions,  
      xlab = "Tiempo de espera entre erupciones (min)",  
      ylab = "Duración de las erupciones (min)",  
      pch = 19,  
      col = "Violet")  
text (60, 4.5, "r = 0.9008***")
```



```
cor.test(erupciones$eruptions, erupciones$waiting)

##
## Pearson's product-moment correlation
##
## data: erupciones$eruptions and erupciones$waiting
## t = 34.089, df = 270, p-value < 2.2e-16
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  0.8756964 0.9210652
## sample estimates:
##      cor
## 0.9008112

erupciones$parameter

## NULL
```