07_Regresión-Lineal.R

Usuario

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```
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# Matricula: 2070509

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
```

```
plot(erupciones$waiting, erupciones$eruptions, xlab = "Tiempo de espera entre erupciones (min)",
     ylab = "Duración de las erupciones (min)", pch = 19, col="gold")

erup.lm<-lm(erupciones$eruptions ~ erupciones$waiting)
erup.lm#Obtenemos el valor de alfa y beta
```

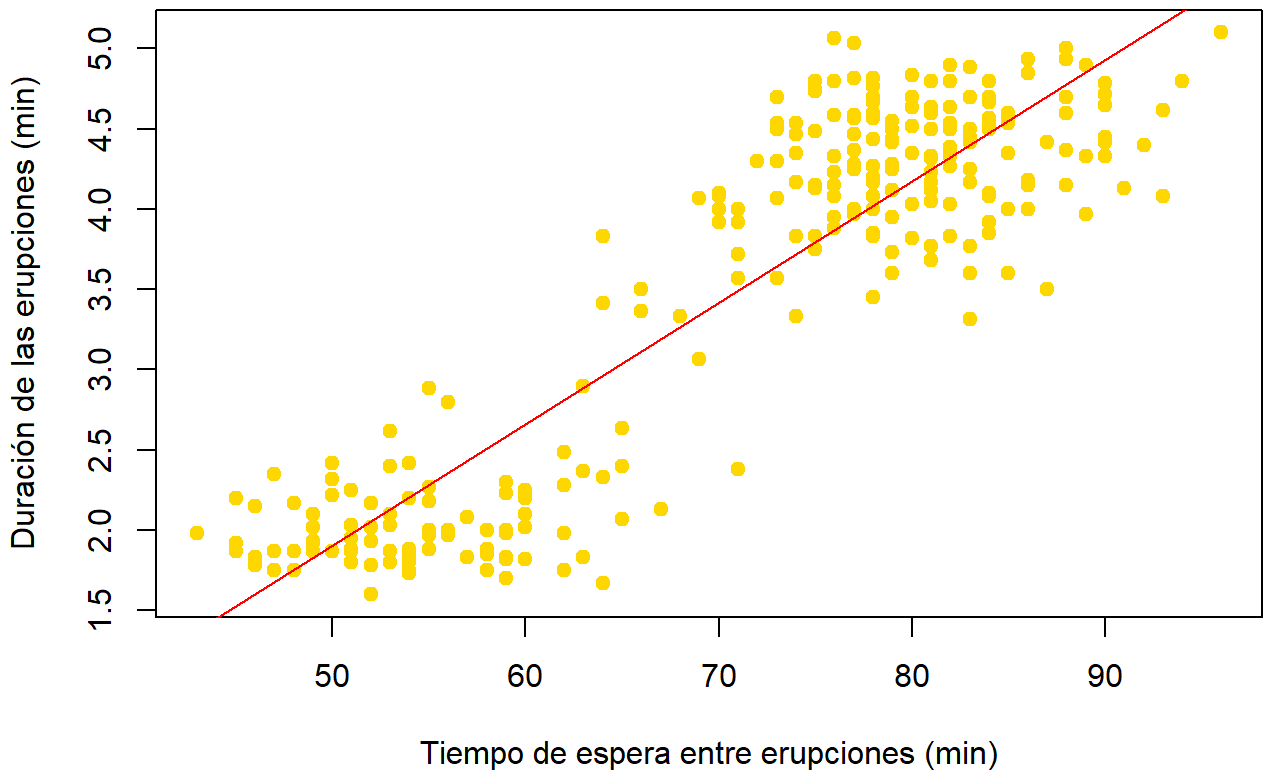
```
##
## Call:
## lm(formula = erupciones$eruptions ~ erupciones$waiting)
##
## Coefficients:
##        (Intercept)  erupciones$waiting
##           -1.87402             0.07563
```

```
summary(erup.lm) #Obtener la significancia
```

```
##
## Call:
## lm(formula = erupciones$eruptions ~ erupciones$waiting)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.29917 -0.37689  0.03508  0.34909  1.19329
##
## Coefficients:
##                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)        -1.874016   0.160143  -11.70   <2e-16 ***
## erupciones$waiting  0.075628   0.002219   34.09   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.4965 on 270 degrees of freedom
## Multiple R-squared:  0.8115, Adjusted R-squared:  0.8108
## F-statistic:  1162 on 1 and 270 DF,  p-value: < 2.2e-16
```

```
erupciones$yprima<--1.874016+0.075628*erupciones$waiting
erupciones$estimados<-erup.lm$fitted.values

abline(erup.lm, col="red")
```



```
range(erupciones$waiting) #43 96
```

```
## [1] 43 96
```

```
erup<-c(80,43,45,53,61,95)

ypr<- -1.874016+0.075628*erup
erup
```

```
## [1] 80 43 45 53 61 95
```

```
-1.874016+0.075628*80 #4.176224
```

```
## [1] 4.176224
```

```
-1.874016+0.075628*43 #1.377988
```

```
## [1] 1.377988
```

```
-1.874016+0.075628*45 #1.529244
```

```
## [1] 1.529244
```

```
-1.874016+0.075628*53 #2.134268
```

```
## [1] 2.134268
```

```
-1.874016+0.075628*61 #2.739292
```

```
## [1] 2.739292
```

```
-1.874016+0.075628*95 #5.310644
```

```
## [1] 5.310644
```

```
#El rango de los valores de x son mi ventana de predicción de yprima
#range(erupciones$waiting)
```