HW_06.R

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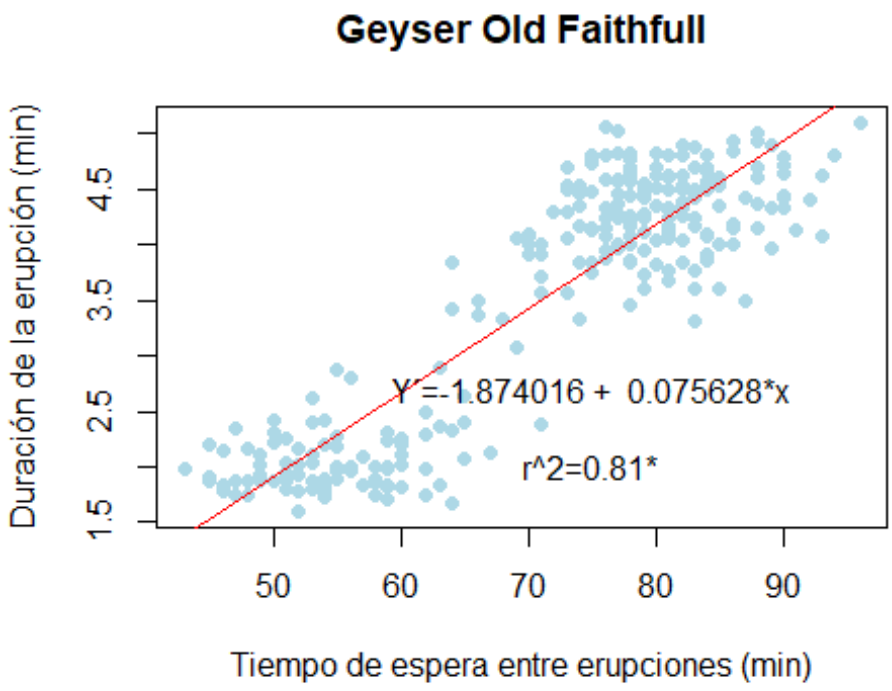
```
# AMANDA
# 11/08/2022
# EXAMEN


# EJERCICIO 1 ------------------------------------------------------------
--

geyser <- read.csv("erupciones.csv")

geyser.lm <- lm(geyser$eruptions ~ geyser$waiting)

plot(geyser$waiting, geyser$eruptions,
     pch=19,
     col= "lightblue",
     xlab = "Tiempo de espera entre erupciones (min)",
     ylab = "Duración de la erupción (min)",
     main = "Geyser Old Faithfull")
abline(geyser.lm,
       col= "red")
text(75, 2.7, "Y´=-1.874016 +  0.075628*x")
text(75, 2, "r^2=0.81*")
```




```
mean(geyser$eruptions)

## [1] 3.487783

sd(geyser$eruptions)

## [1] 1.141371

var(geyser$eruptions)

## [1] 1.302728

mean(geyser$waiting)

## [1] 70.89706

sd(geyser$waiting)

## [1] 13.59497

var(geyser$waiting)

## [1] 184.8233

cor.test(geyser$waiting, geyser$eruptions)

##
##  Pearson's product-moment correlation
##
## data:  geyser$waiting and geyser$eruptions
```

```
## 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
```

```
summary(geyser.lm)
```

```
##
## Call:
## lm(formula = geyser$eruptions ~ geyser$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 ***
## geyser$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
```

```
valores <- c(80, 40, 45, 53, 61)
-1.874016 +  0.075628 * valores
```

```
## [1] 4.176224 1.151104 1.529244 2.134268 2.739292
```