ClaseS14D1.R

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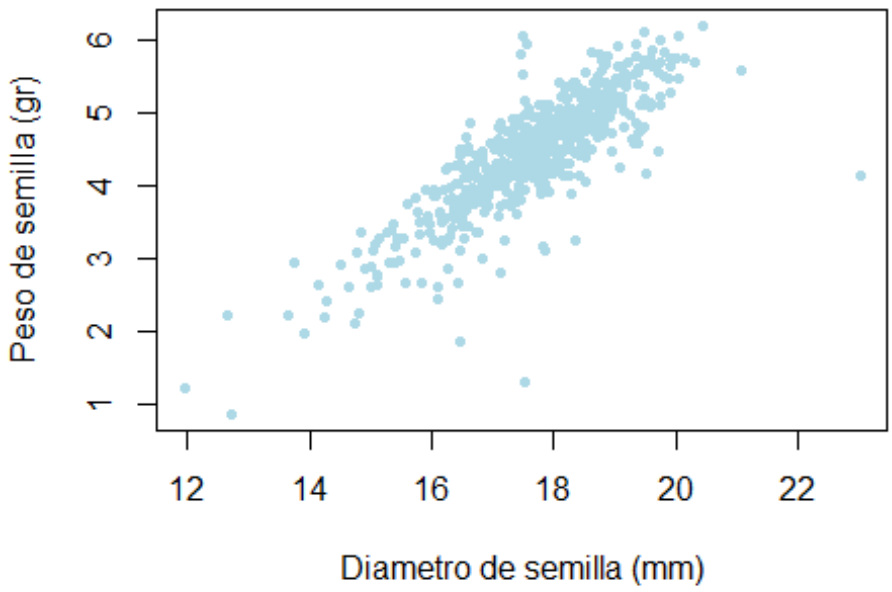
2022-05-19

```
#KeyMtz
#Clase semana 14 dia 1
#Regresion


url <-
"https://raw.githubusercontent.com/mgtagle/Marco_Principios_Estadistica_2
022/main/Clases/BaseDeDatos_estadistica.csv"
semilla <- read.csv(url)
plot(semilla$Diametro_mm, semilla$Peso_gr,
     pch= 20, col = "lightblue",
     xlab = "Diametro de semilla (mm)",
     ylab = "Peso de semilla (gr)")
```




```
#lm funcion que me ayuda a determinar alfa y beta de la regresion.

lm(semilla$Peso_gr  ~ semilla$Diametro_mm)
```

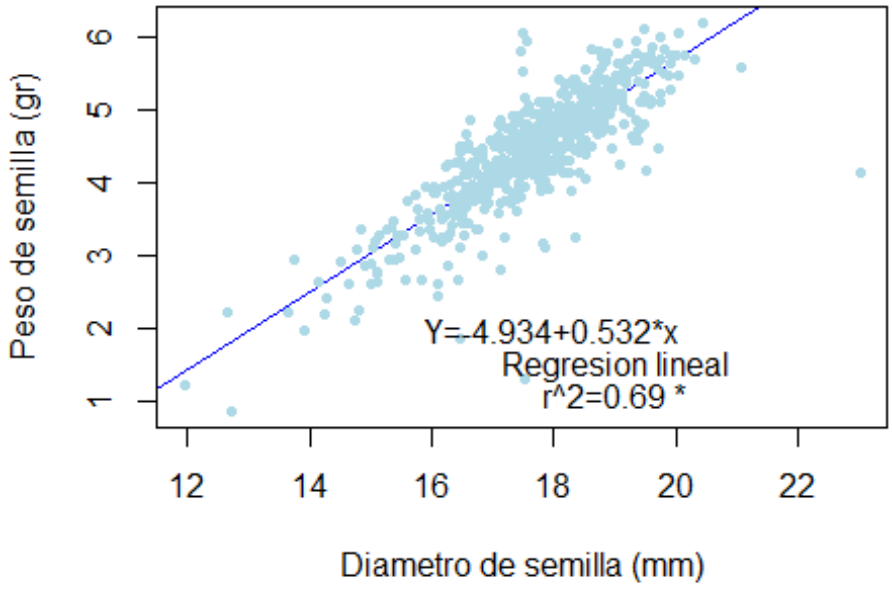
```
##
## Call:
## lm(formula = semilla$Peso_gr ~ semilla$Diametro_mm)
##
## Coefficients:
##         (Intercept)  semilla$Diametro_mm
##             -4.9339               0.5318

sem.lm <- lm(semilla$Peso_gr ~ semilla$Diametro_mm)
summary(sem.lm)

##
## Call:
## lm(formula = semilla$Peso_gr ~ semilla$Diametro_mm)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -3.15238 -0.19690  0.02148  0.25270  1.71305
##
## Coefficients:
##                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)         -4.93388    0.25604  -19.27   <2e-16 ***
## semilla$Diametro_mm  0.53178    0.01446   36.76   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.4373 on 597 degrees of freedom
## Multiple R-squared:  0.6936, Adjusted R-squared:  0.6931
## F-statistic:  1352 on 1 and 597 DF,  p-value: < 2.2e-16

semilla$yprima <- -4.934+0.532*semilla$Diametro_mm

#Agregar la linea de tendencia central usando abline.
plot(semilla$Diametro_mm, semilla$Peso_gr, pch =20,col="lightblue",
     xlab = "Diametro de semilla (mm)",
     ylab = "Peso de semilla (gr)",
     abline(sem.lm, col="blue"))
text(18, 2, "Y=-4.934+0.532*x")
text(19, 1.5, "Regresion lineal")
text(19, 1.1, "r^2=0.69 *")
```




```
semilla$Ajustados <- round(sem.lm$fitted.values, 2)
sem.lm$coefficients
```

```
##         (Intercept) semilla$Diametro_mm
##           -4.933882            0.531780
```

```
sum(sem.lm$residuals)
```

```
## [1] 1.186551e-14
```

```
#Encontrar los siguientes valores aplicando la formula regresion
#18, 11, 14, 15, 16

valores <- c(11, 14, 15, 16, 18)
-4.93388 + 0.53178*valores
```

```
## [1] 0.91570 2.51104 3.04282 3.57460 4.63816
```