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title: "Correlacion"
author: "rocio"
date: "2024-02-26"
output: html_document
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```

```
```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = TRUE)
```
```

## ## R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
```{r cars}
summary(cars)
```
```

## ## Including Plots

You can also embed plots, for example:

```
```{r pressure, echo=FALSE}
plot(pressure)
```
```

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

```
```{r echo=TRUE}
library(readxl)
data <- as.data.frame(read_excel("C:/data.xlsx"))
```
```

```
```{r}
# Función para agregar coeficientes de correlación
panel.cor = function(x, y, digits = 2, prefix = "", cex.cor, ...) {
  usr = par("usr")
  on.exit(par(usr))
  par(usr = c(0, 1, 0, 1))
  Cor = abs(cor(x, y))
  txt = paste0(prefix, format(c(Cor, 0.123456789), digits = digits)[1])
  if(missing(cex.cor)) {
    cex.cor = 0.4 / strwidth(txt)
  }
  text(0.5, 0.5, txt,
       cex = 1 + cex.cor * Cor)
}
pairs(data,
       upper.panel = panel.cor,
       lower.panel = panel.smooth)
```
```

```
```{r echo=TRUE}
cor.test(data$longitud, data$peso)
```
```

```
```{r warning=FALSE}
library(correlation)
resultados = correlation(data)
```

```
resultados
```
```

```
```{r echo=TRUE}
library(ggpubr)
ggscatter(data, x = "longitud", y = "peso",
          add = "reg.line", conf.int = TRUE,
          cor.coef = TRUE, cor.method = "pearson",
          xlab = "Longitud piezas (mm)", ylab = "Peso piezas (mg)")
```
```

```
```{r echo=TRUE}
library(corrplot)
corrplot(cor(data))
```
```

```
```{r echo=TRUE}
distancia <- c(1.1,100.2,90.3,5.4,57.5,6.6,34.7,65.8,57.98,86.1)
n_piezas <- c(110,2,6,98,40,94,31,5,8,10)
dist_ncuent <- data.frame(distancia, n_piezas)
knitr::kable(dist_ncuent)
```
```

```
```{r warning=FALSE}
library(correlation)
resultados<-correlation(dist_ncuent)
resultados
```
```

```
```{r echo=TRUE}
cor.test(dist_ncuent$distancia, dist_ncuent$n_piezas)
```
```{r echo=TRUE}
library(ggpubr)
ggscatter(dist_ncuent, x = "distancia", y = "n_piezas",
          add="reg.line", conf.int = TRUE,
          cor.coef = TRUE, cor.method= "pearson",
          xlab = "Distancia", ylab = "Número de piezas")
```
```