Tarea_final

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Informe prueba

Quarto enables you to weave together content and executable code into a finished document. To learn more about Quarto see https://quarto.org.

Running Code

When you click the **Render** button a document will be generated that includes both content and the output of embedded code. You can embed code like this:

```
Warning: package 'tidyverse' was built under R version 4.3.1
```

```
Warning: package 'ggplot2' was built under R version 4.3.1
```

```
Warning: package 'tidyr' was built under R version 4.3.1
```

```
Warning: package 'readr' was built under R version 4.3.1
```

```
Warning: package 'purrr' was built under R version 4.3.1
```

```
Warning: package 'dplyr' was built under R version 4.3.1
```

```
Warning: package 'forcats' was built under R version 4.3.1
```

```
Warning: package 'lubridate' was built under R version 4.3.1
```

```
-- Attaching core tidyverse packages ---------------------- tidyverse 2.0.0 --
v dplyr      1.1.2     v readr      2.1.4
v forcats    1.0.0     v stringr    1.5.0
v ggplot2    3.4.3     v tibble     3.2.1
v lubridate 1.9.2      v tidyr      1.3.0
v purrr      1.0.2
-- Conflicts ------------------------------------- tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()    masks stats::lag()
i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to becon

Warning: package 'tidymodels' was built under R version 4.3.1


-- Attaching packages ------------------------------------ tidymodels 1.1.1 --
v broom        1.0.5     v rsample      1.2.0
v dials        1.2.0     v tune         1.1.2
v infer        1.0.4     v workflows    1.1.3
v modeldata    1.2.0     v workflowsets 1.0.1
v parsnip      1.1.1     v yardstick    1.2.0
v recipes      1.0.8


Warning: package 'broom' was built under R version 4.3.1


Warning: package 'dials' was built under R version 4.3.1


Warning: package 'infer' was built under R version 4.3.1


Warning: package 'modeldata' was built under R version 4.3.1


Warning: package 'parsnip' was built under R version 4.3.1


Warning: package 'recipes' was built under R version 4.3.1


Warning: package 'rsample' was built under R version 4.3.1


Warning: package 'tune' was built under R version 4.3.1


Warning: package 'workflows' was built under R version 4.3.1
```

```
Warning: package 'workflowsets' was built under R version 4.3.1


Warning: package 'yardstick' was built under R version 4.3.1


-- Conflicts ------------------------------------- tidymodels_conflicts() --
x scales::discard() masks purrr::discard()
x dplyr::filter()   masks stats::filter()
x recipes::fixed()  masks stringr::fixed()
x dplyr::lag()      masks stats::lag()
x yardstick::spec() masks readr::spec()
x recipes::step()   masks stats::step()
* Dig deeper into tidy modeling with R at https://www.tmwr.org


Warning: package 'psych' was built under R version 4.3.1



Attaching package: 'psych'

The following objects are masked from 'package:scales':

    alpha, rescale

The following objects are masked from 'package:ggplot2':

    %+%, alpha

Warning: package 'caret' was built under R version 4.3.1

Loading required package: lattice

Attaching package: 'caret'

The following objects are masked from 'package:yardstick':

    precision, recall, sensitivity, specificity

The following object is masked from 'package:purrr':

    lift

Warning: package 'readxl' was built under R version 4.3.1
```

```
Warning: package 'kableExtra' was built under R version 4.3.1


Attaching package: 'kableExtra'

The following object is masked from 'package:dplyr':

    group_rows

Warning: package 'car' was built under R version 4.3.1

Loading required package: carData

Warning: package 'carData' was built under R version 4.3.1


Attaching package: 'car'

The following object is masked from 'package:psych':

    logit

The following object is masked from 'package:dplyr':

    recode

The following object is masked from 'package:purrr':

    some
```

You can add options to executable code like this

The `echo: false` option disables the printing of code (only output is displayed).

```r
ruta_red <- read.csv("winequality-red.csv")

ruta_red %>% head() %>% kable()%>% kable_classic_2(full_width=F)

#Re-Escalado

ruta_red_a =scale(ruta_red, center=T, scale = T) %>% as.data.frame()
```

fixed.acidity	volatile.acidity	citric.acid	residual.sugar	chlorides	free.sulfur.dioxide	total.sulfur.dioxi
7.4	0.70	0.00	1.9	0.076	11	3
7.8	0.88	0.00	2.6	0.098	25	6
7.8	0.76	0.04	2.3	0.092	15	5
11.2	0.28	0.56	1.9	0.075	17	6
7.4	0.70	0.00	1.9	0.076	11	3
7.4	0.66	0.00	1.8	0.075	13	4

fixed.acidity	volatile.acidity	citric.acid	residual.sugar	chlorides	free.sulfur.dioxide	total.sulfur.diox
-0.5281944	0.9615758	-1.391037	-0.4530767	-0.2436305	-0.4660467	-0.3790
-0.2984541	1.9668271	-1.391037	0.0434026	0.2238052	0.8723653	0.6241
-0.2984541	1.2966596	-1.185699	-0.1693742	0.0963227	-0.0836433	0.2289
1.6543385	-1.3840105	1.483689	-0.4530767	-0.2648775	0.1075584	0.4113
-0.5281944	0.9615758	-1.391037	-0.4530767	-0.2436305	-0.4660467	-0.3790
-0.5281944	0.7381867	-1.391037	-0.5240023	-0.2648775	-0.2748450	-0.1966

```
ruta_red_a %>% head() %>% kable() %>% kable_classic_2(full_width=F)

# Dividir los datos

train=createDataPartition(ruta_red_a$pH, p=0.8, list = FALSE)

train.data=ruta_red_a[train,]
test.data=ruta_red_a[-train,]

#modelo1

lm1=lm(pH~.-quality,
       train.data)

vif(lm1)
```

```
      fixed.acidity     volatile.acidity          citric.acid
           3.669030             1.796311             3.044941
     residual.sugar            chlorides  free.sulfur.dioxide
           1.493162             1.519314             1.905688
total.sulfur.dioxide              density             sulphates
           2.098534             4.238123             1.519948
            alcohol
           2.241651
```

```
#modelo2
lm2=update(lm1,.~.-density)

AIC(lm1, lm2)
```

```
    df      AIC
lm1 12 2125.398
lm2 11 2612.785
```

```
par(mfrow=c(2,2))

plot(lm1, add.smooth = F)
```