

Taller_Final

2024-10-03

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:

```
summary(cars)
```

```
##      speed      dist
##  Min.   : 4.0    Min.   :  2.00
## 1st Qu.:12.0    1st Qu.: 26.00
## Median :15.0    Median : 36.00
## Mean   :15.4    Mean   : 42.98
## 3rd Qu.:19.0    3rd Qu.: 56.00
## Max.   :25.0    Max.   :120.00
```

Including Plots

You can also embed plots, for example:



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

Desarrollo del taller

```
valores = unique(muestra$ESTU_TIPODOCUMENTO)

n = nrow(muestra)

for (valor in valores) {
  x = sum(muestra$ESTU_TIPODOCUMENTO == valor)
}

resultado = prop.test(x = x , n = n, conf.level = 0.95)

cat("\n\ Tipo de documento:" , valor)
```

```
## n Tipo de documento: NES
```

```
print(resultado)
```

```
##
## 1-sample proportions test with continuity correction
##
## data: x out of n, null probability 0.5
## X-squared = 986.05, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.00077511 0.00951784
## sample estimates:
## p
## 0.003
```

Segunda variable categórica (ESTU_NACIONALIDAD)

```
valores = unique(muestra$ESTU_NACIONALIDAD)
n = nrow(muestra)

for (valor in valores) {
  x = sum(muestra$ESTU_NACIONALIDAD == valor)

  # Realizamos la prueba de proporción para cada nacionalidad contra 0.5
  resultado = prop.test(x = x, n = n, p = 0.5, conf.level = 0.95)

  # Mostramos los resultados con print
  print(paste("Nacionalidad:", valor))
  print(resultado)
}
```

```
## [1] "Nacionalidad: COLOMBIA"
```

```
##
## 1-sample proportions test with continuity correction
##
## data: x out of n, null probability 0.5
## X-squared = 974.17, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.9862937 0.9975587
## sample estimates:
## p
## 0.994
```

```
##
## [1] "Nacionalidad: VENEZUELA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 978.12, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.001842222 0.012343325
## sample estimates:
##      p
## 0.005
##
## [1] "Nacionalidad: COSTA RICA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 994.01, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  5.220236e-05 6.468785e-03
## sample estimates:
##      p
## 0.001
```

IC de columna GENERO

```
valores = unique(muestra$ESTU_GENERO)
n = nrow(muestra)

for (valor in valores){
  x = sum(muestra$ESTU_GENERO == valor)

  resultado = prop.test(x = x, n = n, p = 0.5, conf.level = 0.95)

  print(paste("Genero:",valor))
  print(resultado)
}
```

```
## [1] "Genero: M"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 6.241, df = 1, p-value = 0.01248
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.4288258 0.4914853
## sample estimates:
##      p
## 0.46
##
```

```
## [1] "Genero: F"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 6.241, df = 1, p-value = 0.01248
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.5085147 0.5711742
## sample estimates:
##      p
## 0.54
```

IC para Puntaje de inglés

```
#chisq.test(muestra$PUNT_INGLES)
Li2 = (n-1) * var(muestra$PUNT_INGLES)/qchisq(0.025, n-1, lower.tail = F)
Ls2 = (n-1) * var(muestra$PUNT_INGLES)/qchisq(0.025, n-1, lower.tail = T)

sqrt(Li2)
```

```
## [1] 11.47367
```

```
sqrt(Ls2)
```

```
## [1] 12.52585
```

IC Para periodo

```
valores = unique(muestra$ESTU_PAIS_RESIDE)
n = nrow(muestra)

for (valor in valores) {
  resultado = prop.test(x = x, n = n, p = 0.5, conf.level = 0.95)

  print(paste("País residencia:",valor))
  print(resultado)
}
```

```
## [1] "País residencia: COLOMBIA"
```

```
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 6.241, df = 1, p-value = 0.01248
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.5085147 0.5711742
## sample estimates:
##      p
## 0.54
##
```

```
## [1] "País residencia: VENEZUELA"
```

```
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
```

```
## X-squared = 6.241, df = 1, p-value = 0.01248
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.5085147 0.5711742
## sample estimates:
## p
## 0.54
##
## [1] "País residencia: COSTA RICA"
##
## 1-sample proportions test with continuity correction
##
## data: x out of n, null probability 0.5
## X-squared = 6.241, df = 1, p-value = 0.01248
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.5085147 0.5711742
## sample estimates:
## p
## 0.54
```

IC DE MUNICIPIO DE RESIDENCIAS

```
valores = unique(muestra$ESTU_DEPTO_RESIDE)
n = nrow(muestra)

for (valor in valores) {
  x = sum(muestra$ESTU_DEPTO_RESIDE == valor)

  resultado = prop.test(x = x, n = n, p = 0.5, conf.level = 0.95)

  print(paste("Departamento:", valor))
  print(resultado)
}
```

```
## [1] "Departamento: CUNDINAMARCA"
##
## 1-sample proportions test with continuity correction
##
## data: x out of n, null probability 0.5
## X-squared = 783.23, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.04381397 0.07369347
## sample estimates:
## p
## 0.057
##
## [1] "Departamento: CAUCA"
##
## 1-sample proportions test with continuity correction
##
## data: x out of n, null probability 0.5
## X-squared = 896.81, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
```

```

## 95 percent confidence interval:
## 0.01739657 0.03841172
## sample estimates:
## p
## 0.026
##
## [1] "Departamento: META"
##
## 1-sample proportions test with continuity correction
##
## data: x out of n, null probability 0.5
## X-squared = 900.6, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.01658466 0.03723503
## sample estimates:
## p
## 0.025
##
## [1] "Departamento: VALLE"
##
## 1-sample proportions test with continuity correction
##
## data: x out of n, null probability 0.5
## X-squared = 737.88, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.05533004 0.08806427
## sample estimates:
## p
## 0.07
##
## [1] "Departamento: BOYACA"
##
## 1-sample proportions test with continuity correction
##
## data: x out of n, null probability 0.5
## X-squared = 874.23, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.02234021 0.04540333
## sample estimates:
## p
## 0.032
##
## [1] "Departamento: BOLIVAR"
##
## 1-sample proportions test with continuity correction
##
## data: x out of n, null probability 0.5
## X-squared = 790.32, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.04205921 0.07146602

```

```

## sample estimates:
##      p
## 0.055
##
## [1] "Departamento: HUILA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 915.85, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.01337908 0.03248858
## sample estimates:
##      p
## 0.021
##
## [1] "Departamento: ARAUCA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 970.23, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.003070733 0.015044842
## sample estimates:
##      p
## 0.007
##
## [1] "Departamento: BOGOTÁ"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 444.89, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.1437550 0.1908565
## sample estimates:
##      p
## 0.166
##
## [1] "Departamento: ANTIOQUIA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 491.4, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.1278066 0.1729404
## sample estimates:
##      p

```

```

## 0.149
##
## [1] "Departamento: CORDOBA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 855.62, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.02653809 0.05115493
## sample estimates:
##      p
## 0.037
##
## [1] "Departamento: NARIÑO"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 881.72, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.02067971 0.04308482
## sample estimates:
##      p
## 0.03
##
## [1] "Departamento: RISARALDA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 912.02, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.01417363 0.03368162
## sample estimates:
##      p
## 0.022
##
## [1] "Departamento: CALDAS"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 912.02, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.01417363 0.03368162
## sample estimates:
##      p
## 0.022
##

```



```

## [1] "Departamento: SUCRE"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 874.23, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.02234021 0.04540333
## sample estimates:
##      p
## 0.032
##
## [1] "Departamento: ATLANTICO"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 765.62, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.04822184 0.07924163
## sample estimates:
##      p
## 0.062
##
## [1] "Departamento: MAGDALENA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 889.25, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.01903141 0.04075467
## sample estimates:
##      p
## 0.028
##
## [1] "Departamento: SANTANDER"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 826.28, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.03336865 0.06024773
## sample estimates:
##      p
## 0.045
##
## [1] "Departamento: NORTE SANTANDER"
##

```

```

## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 923.52, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.01180558 0.03008791
## sample estimates:
##      p
## 0.019
##
## [1] "Departamento: VICHADA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 994.01, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  5.220236e-05 6.468785e-03
## sample estimates:
##      p
## 0.001
##
## [1] "Departamento: QUINDIO"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 970.23, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.003070733 0.015044842
## sample estimates:
##      p
## 0.007
##
## [1] "Departamento: CASANARE"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 962.36, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.004398497 0.017664478
## sample estimates:
##      p
## 0.009
##
## [1] "Departamento: CESAR"
##
## 1-sample proportions test with continuity correction
##

```

```

## data:  x out of n, null probability 0.5
## X-squared = 923.52, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.01180558 0.03008791
## sample estimates:
##      p
## 0.019
##
## [1] "Departamento: CHOCO"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 954.53, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.005795362 0.020224748
## sample estimates:
##      p
## 0.011
##
## [1] "Departamento: LA GUAJIRA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 946.73, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.007243971 0.022739374
## sample estimates:
##      p
## 0.013
##
## [1] "Departamento: TOLIMA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 919.68, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.01258960 0.03129078
## sample estimates:
##      p
## 0.02
##
## [1] "Departamento: SAN ANDRES"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 990.02, df = 1, p-value < 2.2e-16

```

```

## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.0003464932 0.0080325147
## sample estimates:
##      p
## 0.002
##
## [1] "Departamento: GUAVIARE"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 990.02, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.0003464932 0.0080325147
## sample estimates:
##      p
## 0.002
##
## [1] "Departamento: CAQUETA"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 966.29, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.003724515 0.016363206
## sample estimates:
##      p
## 0.008
##
## [1] "Departamento: PUTUMAYO"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 986.05, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
## 0.00077511 0.00951784
## sample estimates:
##      p
## 0.003

```

IC para Estrato de vivienda

```

valores = unique(muestra$FAMI ESTRATOVIVIENDA)
n = nrow(muestra)

for (valor in valores){
  x = sum(muestra$FAMI ESTRATOVIVIENDA == valor)
  resultado = prop.test(x = x, n = n, p = 0.5, conf.level = 0.95)
  print(paste("Estrato:", valor))
}

```

```
print(resultado)
}
```

```
## [1] "Estrato: Estrato 2"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 88.209, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.3215511 0.3816085
## sample estimates:
##      p
## 0.351
##
## [1] "Estrato: Estrato 1"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 100.49, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.3117896 0.3714480
## sample estimates:
##      p
## 0.341
##
## [1] "Estrato: Estrato 3"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 358.8, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.1759021 0.2264401
## sample estimates:
##      p
## 0.2
##
## [1] "Estrato: Sin Estrato"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 885.48, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.01985396 0.04192127
## sample estimates:
##      p
## 0.029
```

```

##
## [1] "Estrato: Estrato 4"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 844.56, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.02908471 0.05457906
## sample estimates:
##      p
## 0.04
##
## [1] "Estrato: "
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 950.62, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.006513995 0.021487118
## sample estimates:
##      p
## 0.012
##
## [1] "Estrato: Estrato 5"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 908.21, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.01497294 0.03487020
## sample estimates:
##      p
## 0.023
##
## [1] "Estrato: Estrato 6"
##
## 1-sample proportions test with continuity correction
##
## data:  x out of n, null probability 0.5
## X-squared = 982.08, df = 1, p-value < 2.2e-16
## alternative hypothesis: true p is not equal to 0.5
## 95 percent confidence interval:
##  0.001282132 0.010950096
## sample estimates:
##      p
## 0.004

```