

UNIVERSIDAD AUTONOMA DE NUEVO LEON

Facultad de Ciencias Forestales

“Prueba de T”

Alumno: Leonardo Elian Martinez Partida

Matricula: 1972603

Materia: Principios de estadística

A 23 de mayo del 2021

RStudio

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Source

```

1 #Leonardo Elian Martinez Partida
2 ##Matrícula: 1972603
3 ##Fecha: 19/7/2021
4
5 costal <- c(87.7, 80.01, 77.28, 78.76, 81.52, 74.2, 80.71, 79.5, 77.87, 81.94,
6           80.7, 82.12, 75.78, 80.19, 83.91, 79.4, 77.52, 77.62, 81.4, 74.89,
7           82.95, 73.59, 77.92, 77.18, 79.83, 81.23, 79.28, 78.44, 79.01, 80.47,
8           76.23, 78.89, 77.14, 69.94, 78.54, 79.7, 82.45, 77.29, 75.52,
9           77.21, 75.99, 81.94, 80.41, 77.7)
10
11 # determinar el número de observaciones
12 n <- length(costal)
13 ## [1] 44
14
15 # determinar la media
16 costa.media <- mean(costal)
17 ## [1] 78.91068
18
19 # Desviación estándar
20 costa.sd <- sd(costal)
21 ## [1] 3.056023
22
23 # [Top Level] 2

```

Environment History Connections Tutorial

Global Environment

values

Variable	Value
costa.media	78.9106818181818
costa.sd	3.05602294960279
costa.se	0.46071279429762
costa.T	-2.36441921149319
costal	num [1:44] 87.7 80 77.3 78.8 81.5 ...
n	44L

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Console

```

> costal <- c(87.7, 80.01, 77.28, 78.76, 81.52, 74.2, 80.71, 79.5, 77.87, 81.94,
+           80.7, 82.12, 75.78, 80.19, 83.91, 79.4, 77.52, 77.62, 81.4, 74.89,
+           82.95, 73.59, 77.92, 77.18, 79.83, 81.23, 79.28, 78.44, 79.01, 80.47,
+           76.23, 78.89, 77.14, 69.94, 78.54, 79.7, 82.45, 77.29, 75.52,
+           77.21, 75.99, 81.94, 80.41, 77.7)
> n <- length(costal)
> # Determinar la media
> costa.media <- mean(costal)
> # Desviación estándar
> costa.sd <- sd(costal)
> # Valor de T
> costa.T <- (costa.media - 80) / costa.se
> # Valor de P
> pt(costa.T, df = n-1)
[1] 0.01132175

```

RStudio

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Source

```

23 costa.se <- costa.sd / sqrt(n)
24 ## [1] 0.4607128
25
26 # Valor de T
27 costa.T <- (costa.media - 80) / costa.se
28 ## [1] -2.364419
29
30 # Valor de P
31 pt(costa.T, df = n-1)
32 ## [1] 0.01132175
33
34 # Resultado de prueba de T
35 t.test(costal, mu= 80, alternative = "less")
36
37
38
39
40
41
42
43
44 # [Top Level] 2

```

Environment History Connections Tutorial

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values

Variable	Value
costa.media	78.9106818181818
costa.sd	3.05602294960279
costa.se	0.46071279429762
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Console

```

> pt(costa.T, df = n-1)
[1] 0.01132175
> # Resultado de prueba de T
> t.test(costal, mu= 80, alternative = "less")

one sample t-test

data: costal
t = -2.3644, df = 43, p-value = 0.01132
alternative hypothesis: true mean is less than 80
95 percent confidence interval:
 -Inf 79.68517
sample estimates:
mean of x
78.91068

```

Resultados

¿Cuál es el valor de p ? 0.01132175

¿Cuál es la hipótesis aceptada? H_1

¿El valor medio de los costales observados son menores o mayores (significativa-mente)? Menores

¿Cuántos grados de libertad tiene el experimento? 43