Clase_S12_D2.R

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```
# AMANDA
# 07/04/2022
# PRUEBA DE T CON ESPECIFICACIÓN

# H0= no existen diferencias entre la media del producto con la media
obtenida por el comprador
# H1= existe diferencia entre la media del producto (siendo menor) con la
media obtenida por el comprador.

costal <- c(87.7, 80.01, 77.28, 78.76, 81.52, 74.2, 80.71, 79.5, 77.87,
81.94, 80.7,
            82.32, 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, 77.17, 69.94, 78.54, 79.7, 82.45, 77.29, 75.52, 77.21,
75.99,
            81.94, 80.41, 77.7)
mean(costal)

## [1] 78.91136

# less (menor), greater (mayor)
t.test(costal, mu=80, alternative = "less")

##
##  One Sample t-test
##
## data:  costal
## t = -2.3632, df = 43, p-value = 0.01135
## alternative hypothesis: true mean is less than 80
## 95 percent confidence interval:
##      -Inf 79.68575
## sample estimates:
## mean of x
##  78.91136

# valor p= 0.01135 (positivo, va al extremo(cola) derecho), se divide el
valor de alfa = 0.025 y -0.025
t.test(costal, mu=80)

##
##  One Sample t-test
```

```
##
## data:  costal
## t = -2.3632, df = 43, p-value = 0.02271
## alternative hypothesis: true mean is not equal to 80
## 95 percent confidence interval:
##  77.98237 79.84036
## sample estimates:
## mean of x
##  78.91136
```

```
azufre <- c(15.8, 22.7, 26.8, 19.1, 18.5, 14.4, 8.3, 25.9, 26.4, 9.8,
            22.7, 15.2, 23.0, 29.6, 21.9, 10.5, 17.3, 6.2, 18.0, 22.9,
            24.6, 19.4, 12.3, 15.9, 11.2, 14.7, 20.5, 26.6, 20.1, 17.0,
            22.3, 27.5, 23.9, 17.5, 11.0, 20.4, 16.2, 20.8, 13.3, 18.1)
```

```
t.test(azufre, mu=17.5, alternative = "greater")
```

```
##
##  One Sample t-test
##
## data:  azufre
## t = 1.3358, df = 39, p-value = 0.09467
## alternative hypothesis: true mean is greater than 17.5
## 95 percent confidence interval:
##  17.18449      Inf
## sample estimates:
## mean of x
##   18.7075
```

```
t.test(azufre, mu=17.5, alternative = "less")
```

```
##
##  One Sample t-test
##
## data:  azufre
## t = 1.3358, df = 39, p-value = 0.9053
## alternative hypothesis: true mean is less than 17.5
## 95 percent confidence interval:
##      -Inf 20.23051
## sample estimates:
## mean of x
##   18.7075
```

```
t.test(azufre, mu=19, alternative = "less")
```

```
##
##  One Sample t-test
##
## data:  azufre
## t = -0.32359, df = 39, p-value = 0.374
## alternative hypothesis: true mean is less than 19
```

```
## 95 percent confidence interval:
##      -Inf 20.23051
## sample estimates:
## mean of x
##   18.7075

t.test(azufre, mu=20, alternative = "less")

##
##  One Sample t-test
##
## data:  azufre
## t = -1.4299, df = 39, p-value = 0.08036
## alternative hypothesis: true mean is less than 20
## 95 percent confidence interval:
##      -Inf 20.23051
## sample estimates:
## mean of x
##   18.7075

t.test(azufre, mu=20.5, alternative = "less")

##
##  One Sample t-test
##
## data:  azufre
## t = -1.983, df = 39, p-value = 0.02722
## alternative hypothesis: true mean is less than 20.5
## 95 percent confidence interval:
##      -Inf 20.23051
## sample estimates:
## mean of x
##   18.7075

t.test(azufre, mu=20.6, alternative = "less")

##
##  One Sample t-test
##
## data:  azufre
## t = -2.0936, df = 39, p-value = 0.02142
## alternative hypothesis: true mean is less than 20.6
## 95 percent confidence interval:
##      -Inf 20.23051
## sample estimates:
## mean of x
##   18.7075

URL <- "https://raw.githubusercontent.com/mgtagle/MCF-
202_Agosto_2021/main/TEMPAIRE_DIA.csv"
temp.dia <- read.csv(URL)
mean(temp.dia$tmax)
```

```
## [1] 29.63605
```

```
t.test(temp.dia$tmax, mu = 35, alternative = "less")
```

```
##
##  One Sample t-test
##
## data:  temp.dia$tmax
## t = -28.358, df = 845, p-value < 2.2e-16
## alternative hypothesis: true mean is less than 35
## 95 percent confidence interval:
##      -Inf 29.94752
## sample estimates:
## mean of x
##  29.63605
```

```
t.test(temp.dia$tmax, mu = 32, alternative = "less")
```

```
##
##  One Sample t-test
##
## data:  temp.dia$tmax
## t = -12.498, df = 845, p-value < 2.2e-16
## alternative hypothesis: true mean is less than 32
## 95 percent confidence interval:
##      -Inf 29.94752
## sample estimates:
## mean of x
##  29.63605
```

```
t.test(temp.dia$tmax, mu = 30, alternative = "less")
```

```
##
##  One Sample t-test
##
## data:  temp.dia$tmax
## t = -1.9241, df = 845, p-value = 0.02734
## alternative hypothesis: true mean is less than 30
## 95 percent confidence interval:
##      -Inf 29.94752
## sample estimates:
## mean of x
##  29.63605
```