

**Sheth L.U.J & Sir M.V College Of Science  
Subject :- Data Analysis with SAS/SPSS/R  
Module 2 Practical 4**

## Aim :- Performing one-sample t-tests using `t.test()`

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```
R - R 4.5.2 - ~/r
> library(dplyr)
> df <- read.csv("spotify-2023.csv")
> print("Column names in dataset:")
[1] "Column names in dataset:"
> print(colnames(df))
[1] "track_name"           "artist_s._name"      "artist_count"        "released_year"
[8] "in_spotify_charts"    "streams"            "in_apple_playlists" "in_apple_charts"
[15] "bpm"                 "key"                "mode"               "danceability_.."
[22] "instrumentalness_.." "liveness_.."       "speechiness_.."
> df <- df %>
+ select(
+   track_name,
+   artist_s._name,
+   artist_count,
+   released_month
+ )
> df <- df %>
+ filter(is.na(artist_count))
> df$artist_count <- as.numeric(df$artist_count)
> df$released_month <- as.numeric(df$released_month)
> print("Summary of artist_count:")
[1] "Summary of artist_count:"
> summary(df$artist_count)
  Min. 1st Qu. Median Mean 3rd Qu. Max.
1.000 1.000 1.000 1.556 2.000 8.000
> print("One-Sample t-test on Artist Count")
[1] "One-Sample t-test on Artist Count"
> t_test_one <- t.test(
+   df$artist_count,
+   mu = 1
+ )
> print(t_test_one)

One Sample t-test

data: df$artist_count
t = 19.225, df = 952, p-value < 2.2e-16
alternative hypothesis: true mean is not equal to 1
95 percent confidence interval:
 1.499367 1.612910
sample estimates:
mean of x
1.556139

> if (t_test_one$p.value < 0.05) {
+   print("Result: Reject the null hypothesis.")
+   print("Conclusion: The average number of artists per track is significantly different from 1.")
+ } else {
+   print("Result: Fail to reject the null hypothesis.")
+   print("Conclusion: The average number of artists per track is not significantly different from 1.")
+ }
[1] "Result: Reject the null hypothesis."
[1] "Conclusion: The average number of artists per track is significantly different from 1."
>
>
```

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