

## R PRACTICAL 5 MODULE 2

Aim: - Performing independent two-sample t-tests using `t.test()` with grouping (R).

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```

# RAS2 - v.0
> # Load required library
library(dplyr)
> # Read the csv file (user must select the file when running this)
> stringsAsFactors = FALSE is safer for reading data
> df <- read.csv(file.choose(), stringsAsFactors = FALSE)
> --- Data Cleaning Fix (ensure numeric columns) ---
> This ensures Runs, B's, 4s, and 6s are numeric for calculations.
> df$Runs <- as.numeric(df$Runs)
> df$B <- as.numeric(df$B)
> df$4 <- as.numeric(df$4)
> df$6 <- as.numeric(df$6)
> # View data
> print("--- Data Head ---")
[1] --- Data Head ---
> print(head(df))
POS      Player Runs B's Four six Against
1      KL Rahul 51 14 4   DC      IS Bindra stadium 08-Apr-18
2  Ishan Kishan 12 7   5   KKR      Eden Gardens 09-May-18
3 Sunil Narine 30 17  4   5   RCB      Eden Gardens 08-Apr-18
4   Jos Buttler 62 18  4   7   DC      Arun Jaitley Stadium 02-May-18
5 Sam Billings 36 21  2   5   KKR      Chidambaram 10-Apr-18
6   KL Rahul 66 22  2   7   KKR      Wankar Cricket Stadium 12-May-18

> # Bf Group: High / Low Bf (Replaces volume_group)
> # High Bf means a slower innings for a given score (above median Bf)
> median_Bf <- median(df$Runs, na.rm = TRUE)
> df$Bf_group <- (ifelse(df$Runs > median_Bf,
+ "High Bf (Slower Innings)",
+ "Low Bf (Faster Innings)"))
> print("--- Independent Two-Sample t-test for Runs (High vs. Low Bf group) ---")
[1] --- Independent Two-Sample t-test for Runs (High vs. Low Bf group) ---
> # Compare Runs (~Runs Score) between the two Bf groups
> t.test_independent <- t.test(Runs ~ Bf_group, data = df)
> print(t.test_independent)

      Welch Two Sample t-test

data: Runs by Bf_group
t = 0.47981, df = 92.227, p-value = 0.6325
alternative hypothesis: true difference in means between group High Bf (Slower Innings) and group Low Bf (Faster Innings) is n
ot equal to 0
95 percent confidence interval:
 -5.02728  6.30085
sample estimates:
mean in group High Bf (Slower Innings)  mean in group Low Bf (Faster Innings)
      68.78000                67.17857

```

Environment History Connections Tutorial

Import Dataset
150 MB
Global Environment

Data
df
106 obs. of 10 variables
opponent\_df
8 obs. of 2 variables
t\_test\_Bf
List of 10
t\_test\_independent
List of 10
t\_test\_runs
List of 10
values
cross.tab
'table' int [1:10, 1:8] 0 1 1 0 1 2 1 1 0 ...
median\_Bf
32
median\_runs
62.5
opponent\_counts
'table' int [1:8(id), 14 13 12 10 15 13 14 13]

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