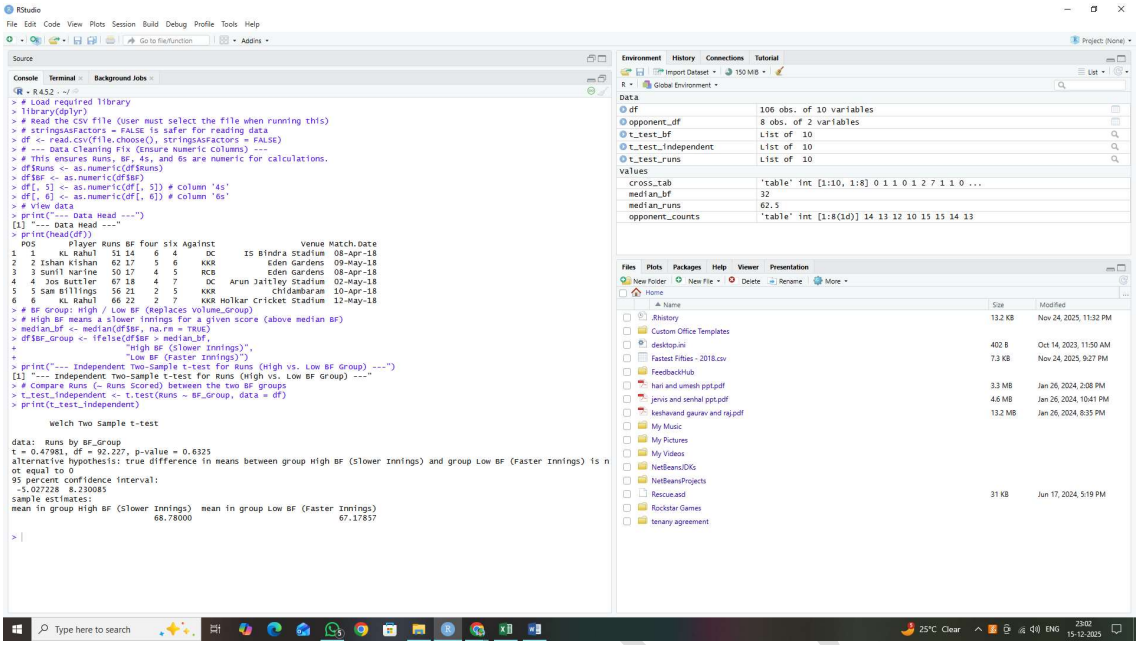
MVLU COLLEGE
R PRACTICAL 5 MODULE 2

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



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> # 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, BF, 4s, and 6s are numeric for calculations.
> df$Runs <- as.numeric(df$Runs)
> df$BF <- as.numeric(df$BF)
> df[, 5] <- as.numeric(df[, 5]) # Column '4s'
> df[, 6] <- as.numeric(df[, 6]) # Column '6s'
> # View data
> print("--- Data Head ---")
[1] "--- Data Head ---"
> print(head(df))
  POS        Player Runs BF four six Against                Venue Match.Date
1   1     KL Rahul   51 14    6   4      DC      IS Bindra Stadium  08-Apr-18
2   2 Ishan Kishan   62 17    5   6     KKR           Eden Gardens  09-May-18
3   3 Sunil Narine   50 17    4   5     RCB           Eden Gardens  08-Apr-18
4   4  Jos Buttler   67 18    4   7      DC   Arun Jaitley Stadium  02-May-18
5   5 Sam Billings   56 21    2   5     KKR              Chidambaram  10-Apr-18
6   6     KL Rahul   66 22    2   7     KKR Holkar 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$BF, na.rm = TRUE)
> df$BF_Group <- ifelse(df$BF > 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 Scored) 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:
 -5.027228  8.230085
sample estimates:
mean in group High BF (Slower Innings)  mean in group Low BF (Faster Innings)
                              68.78000                               67.17857

>
```

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