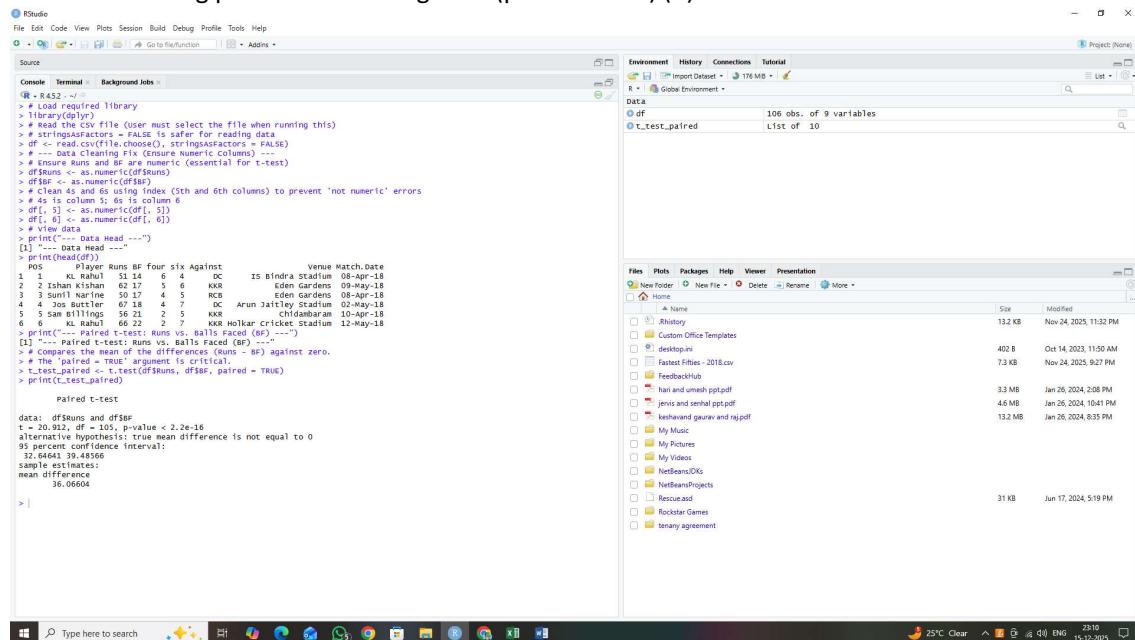


**MVLU COLLEGE**  
**R PRACTICAL 6 MODULE 2**

Aim: - Performing paired t-tests using `t.test(paired=TRUE)` (R).



The screenshot shows an RStudio interface with the following details:

- Console:** Displays R code and its output. The code reads a CSV file, processes it, and performs a paired t-test on the 'Runs' and 'Balls Faced' columns.
- Data View:** Shows two data frames: `df` (106 rows, 9 variables) and `t_test_paired` (List of 10).
- File Explorer:** Shows a folder structure with various files like `history`, `Custom Office Templates`, and `FeedbackHub`.
- Taskbar:** Includes icons for File Explorer, Task View, Start, Taskbar settings, and system status (25°C, Clear, 23:10, 15-12-2024).

```

> # Load required library
> library(tidyverse)
> # Read the CSV file (User must select the file when running this)
> df <- read_csv("C:/Users/Hari/Downloads/ipl.csv")
> # Data Cleaning Fix (Ensure numeric columns)
> # Ensure Runs and BF are numeric (essential for t-test)
> df$Runs <- as.numeric(df$Runs)
> df$BF <- as.numeric(df$BF)
> # Clean 45 and 65 using index (5th and 6th columns) to prevent 'not numeric' errors
> # 45 is the 5th column and 65 is the 6th column
> df[, 5] <- as.numeric(df[, 5])
> df[, 6] <- as.numeric(df[, 6])
> # View the first few rows
> print("---- Data Head ----")
> [1] "---- Data Head ----"
> # Print head of df
> pos   Player Runs BF four six Against venue Match.Date
> 1   KL Rahul 51 14   6   4   DC IS Bindra Stadium 08-Apr-18
> 2   Ishant Sharma 52 17   7   6   KKR Eden Gardens 08-Apr-18
> 3   Sunil Narine 50 17   4   6   RCB Eden Gardens 08-Apr-18
> 4   Jonty Butler 67 18   4   7   DC Arun Jaitley Stadium 02-May-18
> 5   Sanju Samson 62 21   2   5   MI Chidambaram 10-Apr-18
> 6   KL Rahul 66 22   2   5   KKR Holkar Cricket Stadium 12-May-18
> print("---- Paired t-test: Runs vs. Balls Faced (BF) ----")
> [1] "---- Paired t-test: Runs vs. Balls Faced (BF) ----"
> # Compares the mean of the differences (Runs - BF) against zero.
> # The 'paired = TRUE' argument is critical.
> t_test_paired <- t.test(df$Runs, df$BF, paired = TRUE)
> print(t_test_paired)

Paired t-test

data: df$Runs and df$BF
t = 20.46, df = 105, p-value < 2.2e-16
alternative hypothesis: true mean difference is not equal to 0
95 percent confidence interval:
32.6646 39.4896
sample estimates:
mean difference
36.06604
>

```