

# Sheth I.u.j. And sir m.v. college of arts science and commerce

## Practical no. 5 mod2

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

The screenshot shows the RStudio interface with the following details:

- File Menu:** File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, Help.
- Code Editor:** An R script titled "Untitled2.R" containing the following R code:

```
R > data <- read.csv("employee_salary_dataset.csv")
R > head(data, 10)
  EmployeeID      Name Department Experience_Years Education_Level Age Gender     City
1          1 Employee_1   Marketing           15            Master  53 Female    Delhi
2          2 Employee_2 Operations           7             Bachelor 25 Female Bangalore
3          3 Employee_3        IT            12       High School 51 Female Hyderabad
4          4 Employee_4 Operations           8                 Phd 44 Male    Delhi
5          5 Employee_5 Operations           15            Master 36 Female    Delhi
6          6 Employee_6   Finance            3       High School 50 Male Mumbai
7          7 Employee_7        IT            14                 Phd 57 Male Mumbai
8          8 Employee_8        IT            17                 Phd 34 Female Bangalore
9          9 Employee_9        IT            4                 Bachelor 53 Male Hyderabad
10         10 Employee_10 Operations          18       High School 28 Male Mumbai
  Monthly_Salary
1          111416
2          95271
3          69064
4          95091
5          132450
6          65818
7          70525
8          44830
9          42429
10         31893
> # Perform independent two-sample t-test
> # Compare Monthly_Salary between Male and Female employees
> t_test_result <- t.test(Monthly_Salary ~ Gender, data = data)
>
> print(t_test_result)
```
- Output:** The output shows the results of the Welch Two Sample t-test:

```
Welch Two Sample t-test

data: Monthly_Salary by Gender
t = 1.134, df = 43.095, p-value = 0.263
alternative hypothesis: true difference in means between group Female and group Male is not equal to 0
95 percent confidence interval:
-8488.292 30303.010
sample estimates:
mean in group Female mean in group Male
  87306.19          76398.83
```
- Environment:** Shows various global variables and objects, including `data2`, `data3`, `employee_s...`, `global_ear...`, `market_data`, `paired_data`, `paired_tes...`, and `t_test_res...`.
- Files:** Shows the file structure of the workspace, including files like `.History`, `1st mod2.R`, `2nd.R`, etc.

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