

PRACTICAL NO 1 & 2 MODULE2

OUTPUT:

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R - R4.5.2 - ~/
File Edit Code View Plots Session Build Debug Profile Tools Help
> # PRACTICAL 1: Descriptive Statistics
> df <- read.csv("student_marks.csv")
> # Using summary()
> summary(df$marks)
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
65.00  72.75   78.50   78.35  84.25   91.00
> # Using psych::describe()
> library(psych)
> describe(df$marks)
  vars  n mean  sd median trimmed  mad min max range skew kurtosis  se
X1    1 20 78.35 7.58  78.5   78.31 8.9  65  91    26 0.01  -1.21 1.69
> # PRACTICAL 2: Frequency Table
> df <- read.csv("employee_department.csv")
> # Using table()
> table(df$department)
  Finance      HR      IT  Marketing
       5         5         6         4
> # Using dplyr::count()
> library(dplyr)
> df %>% count(department)
  department n
1  Finance    5
2    HR      5
3      IT     6
4 Marketing  4
> # PRACTICAL 3: Cross-Tabulation
> df <- read.csv("college_admission.csv")
> cross_tab <- table(df$gender, df$admission_status)
> cross_tab
      No Yes
Female 3  7
Male   4  6

```

Environment

Object	Class	Size
df	data.frame	20 obs. of 2 variables
dropped_multiple	data.frame	244 obs. of 5 variables
dropped_one	data.frame	244 obs. of 6 variables
dropped_range	data.frame	244 obs. of 3 variables
duplicates_report	data.frame	2 obs. of 4 variables
emp_basic	data.frame	3 obs. of 3 variables
emp_salary	data.frame	3 obs. of 3 variables
employee_department	data.frame	20 obs. of 2 variables
enroll_df	data.frame	7 obs. of 3 variables
final_list	data.frame	5 obs. of 3 variables

Files

Name	Size	Modified
S116 Abhishek Singh - Practical No. 5-23-08-2025-[1].docx	2.6 MB	Aug 23, 2025, 2:26 PM
salary_gender.csv	254 B	Dec 15, 2025, 11:02 AM
school.sql	121 B	Sep 9, 2025, 9:09 AM
student_health_a.csv	54 B	Dec 8, 2025, 10:54 AM
student_health_b.csv	50 B	Dec 8, 2025, 10:54 AM
student_marks.csv	128 B	Dec 15, 2025, 11:01 AM
test.py	839 B	Sep 20, 2025, 3:54 PM
test.sql	165 B	Sep 22, 2025, 12:58 PM
time series data.csv	2.6 KB	Sep 1, 2025, 12:30 PM
time.py	1.6 KB	Sep 21, 2025, 4:55 PM
tips.csv	7.8 KB	Dec 1, 2025, 11:33 AM
Titanic-Dataset.csv	59.8 KB	Dec 1, 2025, 11:31 AM
TOC qb soln.pdf	424.8 KB	Oct 11, 2025, 6:38 PM
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train.csv	59.8 KB	Dec 1, 2025, 12:16 PM
userlog.sql	522 B	Sep 24, 2025, 8:36 PM
Viswanathan_Anand.docx	194.5 KB	Sep 23, 2025, 10:16 PM
fitness_program.csv	147 B	Dec 15, 2025, 11:16 AM

PRACTICAL NO 3 & 4 MODULE 2

OUTPUT:

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> # PRACTICAL 3: Cross-Tabulation
> df <- read.csv("college_admission.csv")
> cross_tab <- table(df$gender, df$admission_status)
> cross_tab
      No Yes
Female 3  7
Male   4  6
> # PRACTICAL 4: One-Sample t-test
> df <- read.csv("daily_steps.csv")
> # Test whether average steps differ from 8000
> t.test(df$steps, mu = 8000)

One Sample t-test

data: df$steps
t = 2.0154, df = 19, p-value = 0.05823
alternative hypothesis: true mean is not equal to 8000
95 percent confidence interval:
 7988.442 8611.558
sample estimates:
mean of x
 8300
> # PRACTICAL 5: Independent Two-Sample t-test
> df <- read.csv("salary_gender.csv")
> t.test(salary ~ gender, data = df)

Welch Two Sample t-test

data: salary by gender
t = 0.10726, df = 13.46, p-value = 0.9162
alternative hypothesis: true difference in means between group Female and group Male is not equal to 0
95 percent confidence interval:
-2860.829 3160.829

```

Environment

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PRACTICAL NO 5 & 6 MODULE 2

OUTPUT:

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R - R4.5.2 - ~/
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Go to file/function Addins Project: (None)

Source
R - R4.5.2 - ~/
95 percent confidence interval:
 7988.442 8611.558
sample estimates:
mean of x
      8300

> # PRACTICAL 5: Independent Two-Sample t-test
> df <- read.csv("salary_gender.csv")
> t.test(salary ~ gender, data = df)

Welch Two Sample t-test

data: salary by gender
t = 0.10726, df = 13.46, p-value = 0.9162
alternative hypothesis: true difference in means between group Female and group Male is not equal to 0
95 percent confidence interval:
 -2860.829  3160.829
sample estimates:
mean in group Female  mean in group Male
          50900         50750

> # PRACTICAL 6: Paired t-test
> df <- read.csv("fitness_program.csv")
> t.test(df$weight_before, df$weight_after, paired = TRUE)

Paired t-test

data: df$weight_before and df$weight_after
t = 11.716, df = 19, p-value = 3.878e-10
alternative hypothesis: true mean difference is not equal to 0
95 percent confidence interval:
  2.833675  4.066325
sample estimates:
mean difference
          3.45

> |

Environment History Connections Tutorial
R - Global Environment
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dropped_one 244 obs. of 6 variables
dropped_range 244 obs. of 3 variables
duplicates_report 2 obs. of 4 variables
emp_basic 3 obs. of 3 variables
emp_salary 3 obs. of 3 variables
employee_department 20 obs. of 2 variables
enroll_df 7 obs. of 3 variables
Final_list 5 obs. of 3 variables

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