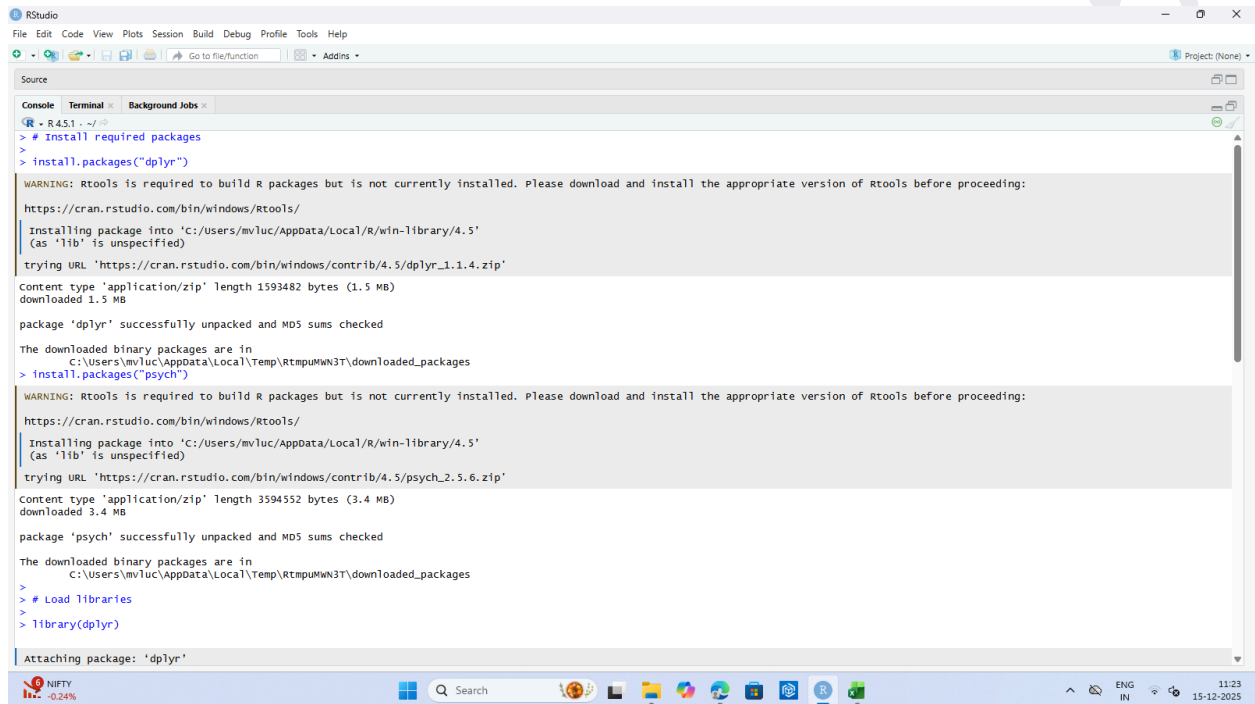


Practical No 1 Module II

Aim : Generating descriptive statistics using summary() or describe() (R)

Output :



```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Source
Console Terminal Background Jobs
R 4.5.1 ~ /
> # Install required packages
> install.packages("dplyr")

WARNING: Rtools is required to build R packages but is not currently installed. Please download and install the appropriate version of Rtools before proceeding:
https://cran.rstudio.com/bin/windows/rtools/
Installing package into 'C:/Users/mvluc/AppData/Local/R/win-library/4.5'
(as 'lib' is unspecified)
trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/dplyr_1.1.4.zip'
Content type 'application/zip' length 1593482 bytes (1.5 MB)
downloaded 1.5 MB
package 'dplyr' successfully unpacked and MD5 sums checked
The downloaded binary packages are in
C:\Users\mvluc\AppData\Local\Temp\RtmpuMWN3T\downloaded_packages
> install.packages("psych")

WARNING: Rtools is required to build R packages but is not currently installed. Please download and install the appropriate version of Rtools before proceeding:
https://cran.rstudio.com/bin/windows/rtools/
Installing package into 'C:/Users/mvluc/AppData/Local/R/win-library/4.5'
(as 'lib' is unspecified)
trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/psych_2.5.6.zip'
Content type 'application/zip' length 3594552 bytes (3.4 MB)
downloaded 3.4 MB
package 'psych' successfully unpacked and MD5 sums checked
The downloaded binary packages are in
C:\Users\mvluc\AppData\Local\Temp\RtmpuMWN3T\downloaded_packages
> # Load libraries
> library(dplyr)

Attaching package: 'dplyr'
```

SHETH L.U.J. AND SIR M.V. COLLEGE OF ARTS SCIENCE AND COMMERCE

SUBJECT : R Programming

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)

Source
Console Terminal Background Jobs
R - R 4.5.1 - ~/...
> library(dplyr)

Attaching package: 'dplyr'

The following objects are masked from 'package:stats':
  filter, lag

The following objects are masked from 'package:base':
  intersect, setdiff, setequal, union

warning message:
package 'dplyr' was built under R version 4.5.2
> library(psych)
warning message:
package 'psych' was built under R version 4.5.2

> # Load the csv dataset from working directory
> df <- read.csv("data_science_student_marks.csv")
> # calculate total marks obtained by each student
> df$total_marks <- df$sql_marks +
+ df$excel_marks +
+ df$python_marks +
+ df$power_bi_marks +
+ df$english_marks
> # calculate percentage from total marks
> df$percentage <- (df$total_marks / 500) * 100
> # create performance group based on percentage
> df$performance_group <- ifelse(df$percentage >= 80, "High", "Low")
```

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)

Source
Console Terminal Background Jobs
R - R 4.5.1 - ~/...
warning message:
package 'psych' was built under R version 4.5.2

> # Load the csv dataset from working directory
> df <- read.csv("data_science_student_marks.csv")
> # calculate total marks obtained by each student
> df$total_marks <- df$sql_marks +
+ df$excel_marks +
+ df$python_marks +
+ df$power_bi_marks +
+ df$english_marks
> # calculate percentage from total marks
> df$percentage <- (df$total_marks / 500) * 100
> # create performance group based on percentage
> df$performance_group <- ifelse(df$percentage >= 80, "High", "Low")
> # Display descriptive statistics using summary()
> summary(df$total_marks)
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
359.0   412.0   425.0   424.8   437.0   484.0
> summary(df$percentage)
  Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
 71.80   82.40   85.00   84.96   87.40   96.80
> # Display detailed descriptive statistics using describe()
> describe(df$python_marks)
  vars  n mean  sd median trimmed  mad min max range skew kurtosis  se
X1    1 497 85.39 8.88    86  85.46 11.86  70 100   30 -0.06  -1.22  0.4
> describe(df$total_marks)
  vars  n mean  sd median trimmed  mad min max range skew kurtosis  se
X1    1 497 424.8 19.08    425 425.04 19.27 359 484  125 -0.13  -0.1 0.86
```

NAME : SHUBHAM SANJAY KARAPE
ROLL NO : S085