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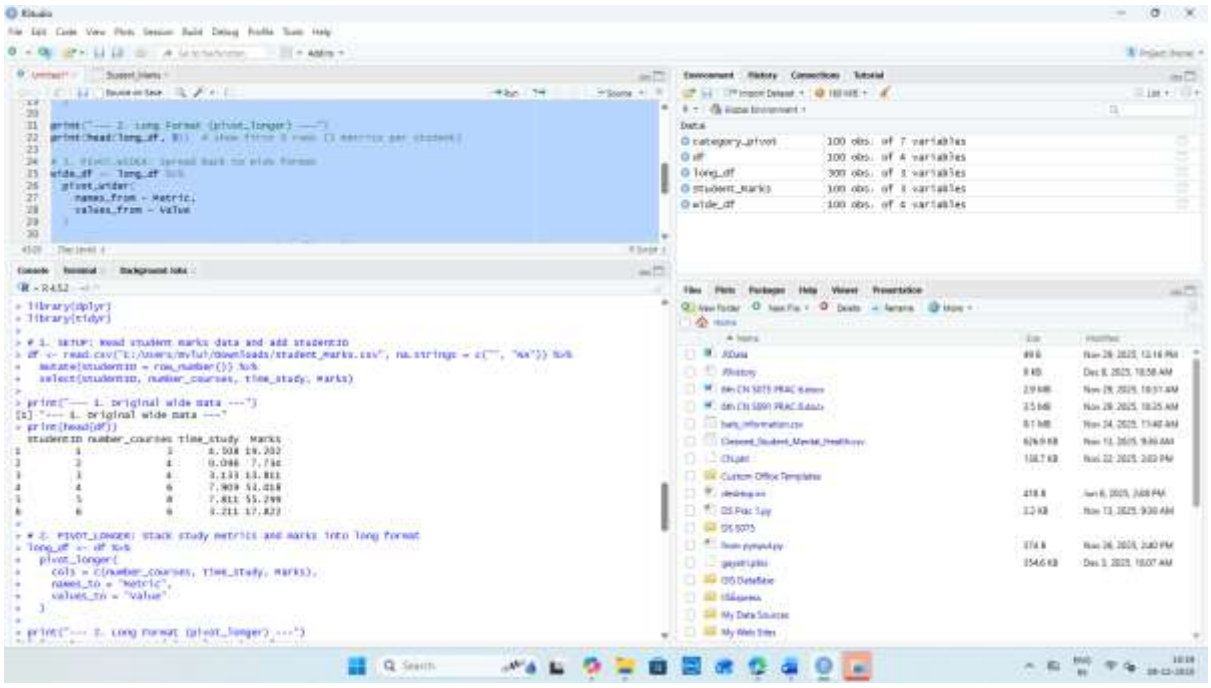
PRAC 11 12 13 14 15

AIM:- 11 Reshaping data using pivot_longer()/pivot_wider() (R).



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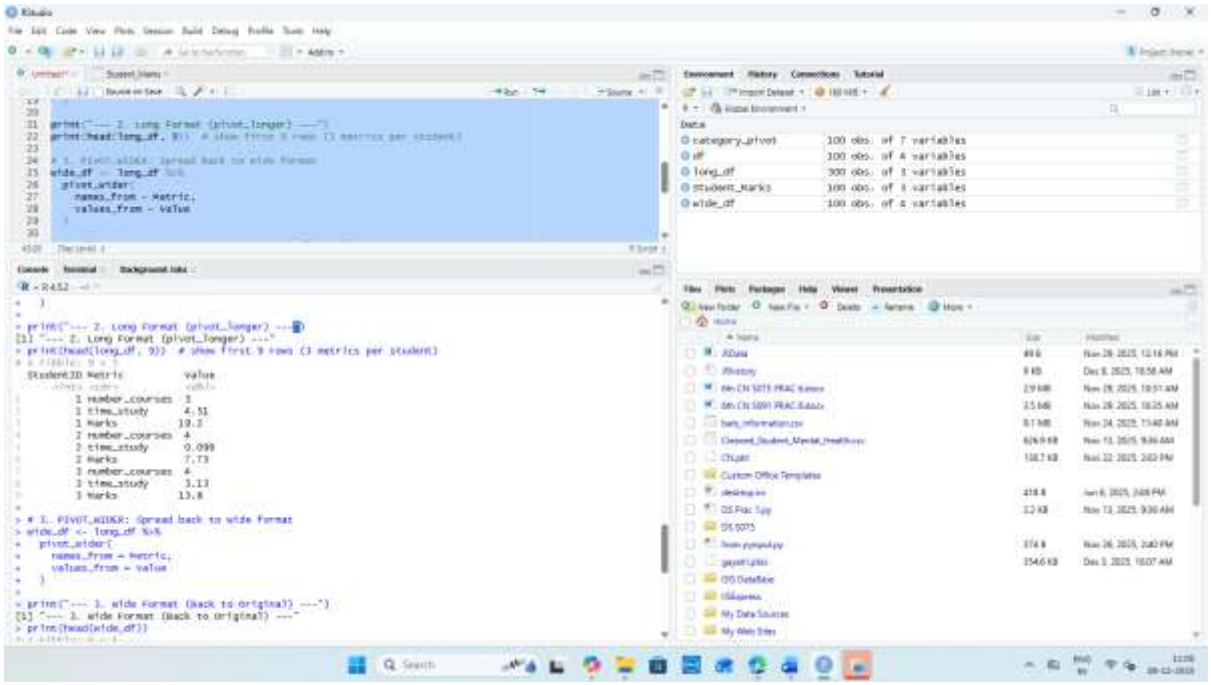

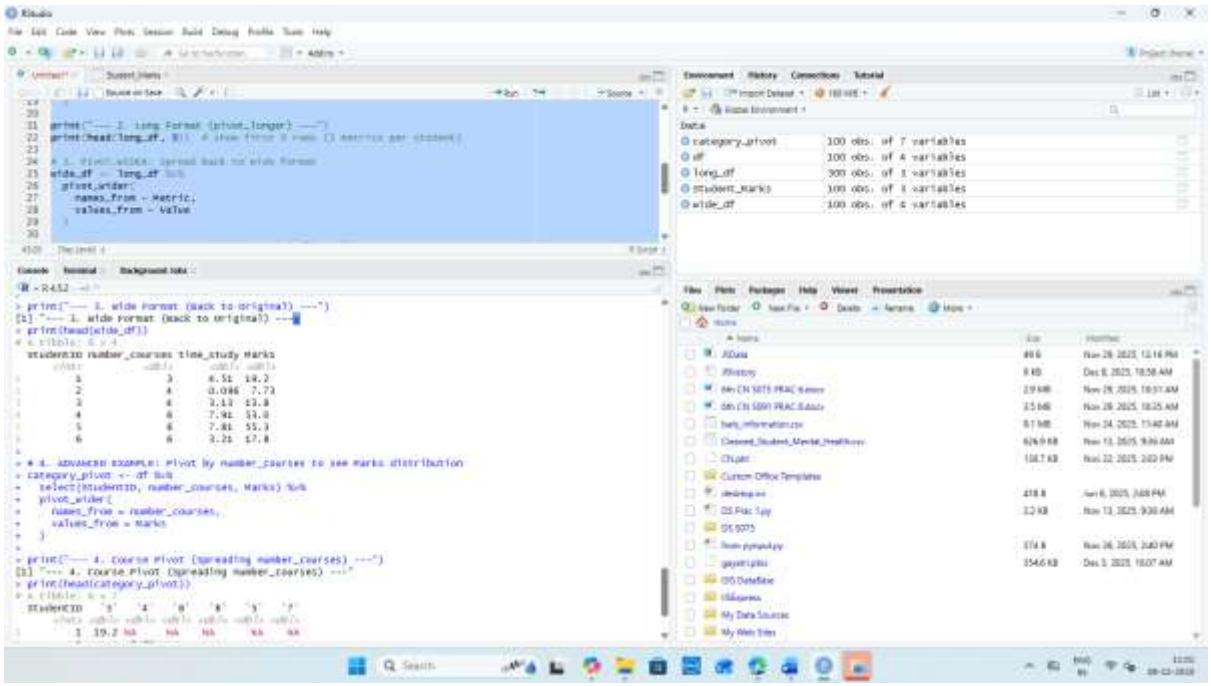

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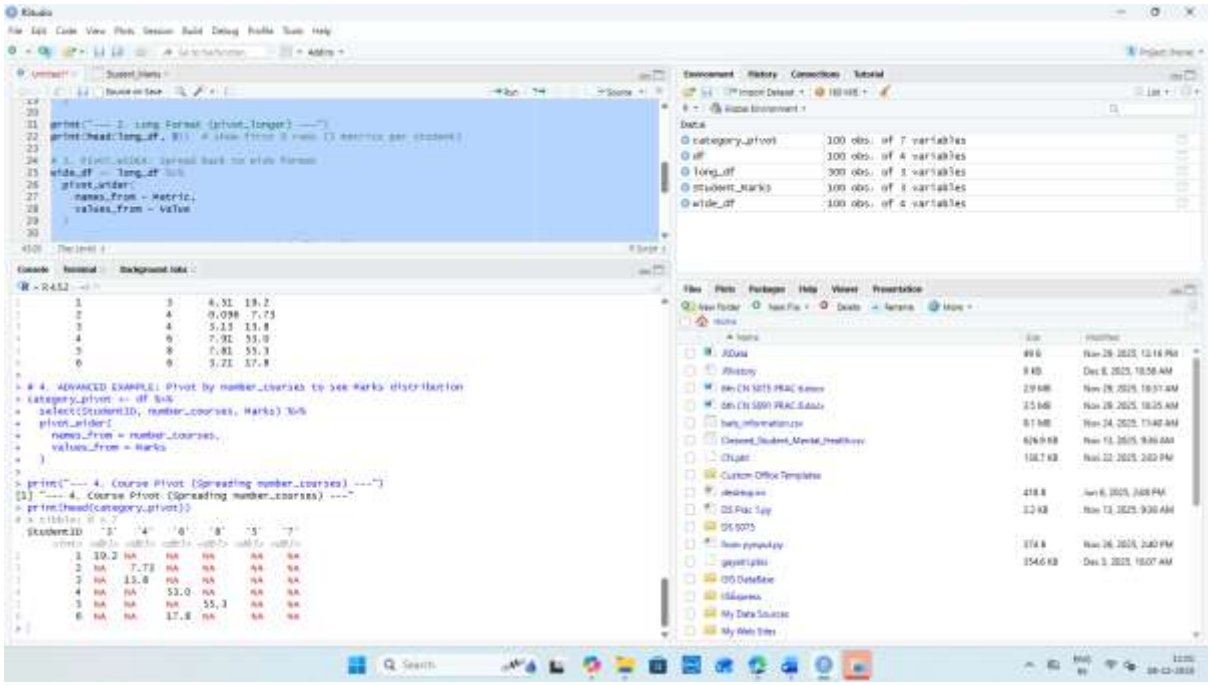
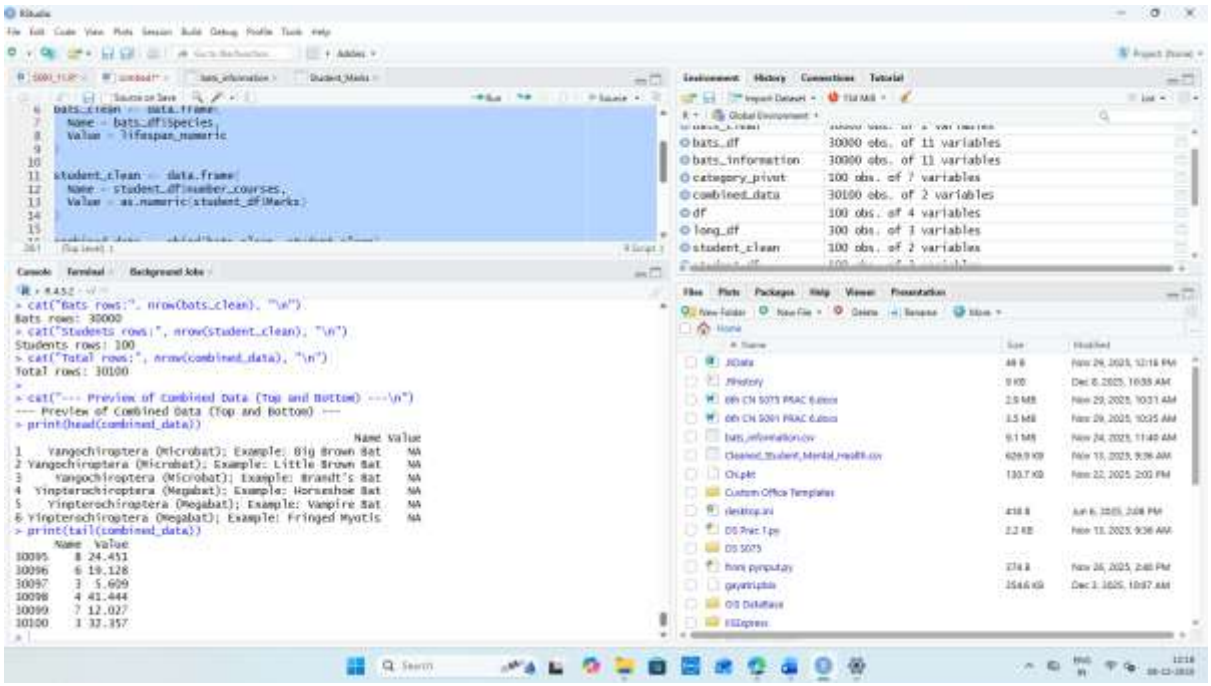


12 Combining datasets vertically (concatenation) using rbind() (R).



AIM:- 13 Identifying and handling duplicates using distinct() (R).

OUTPUT:-

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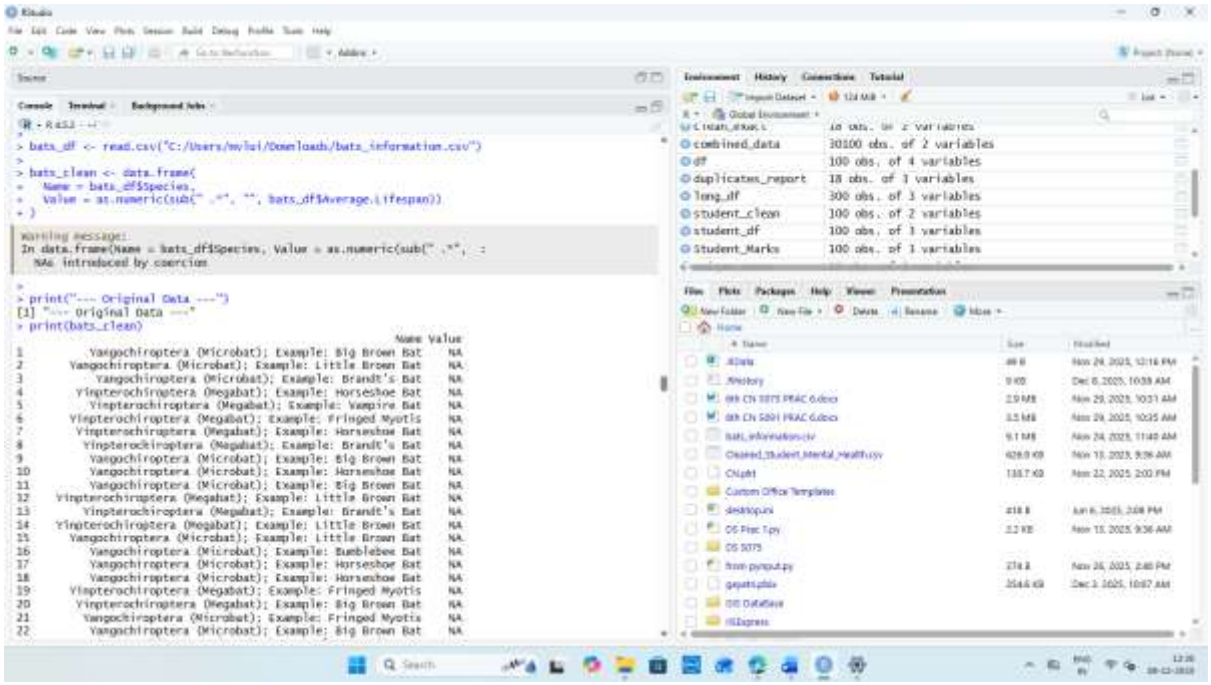

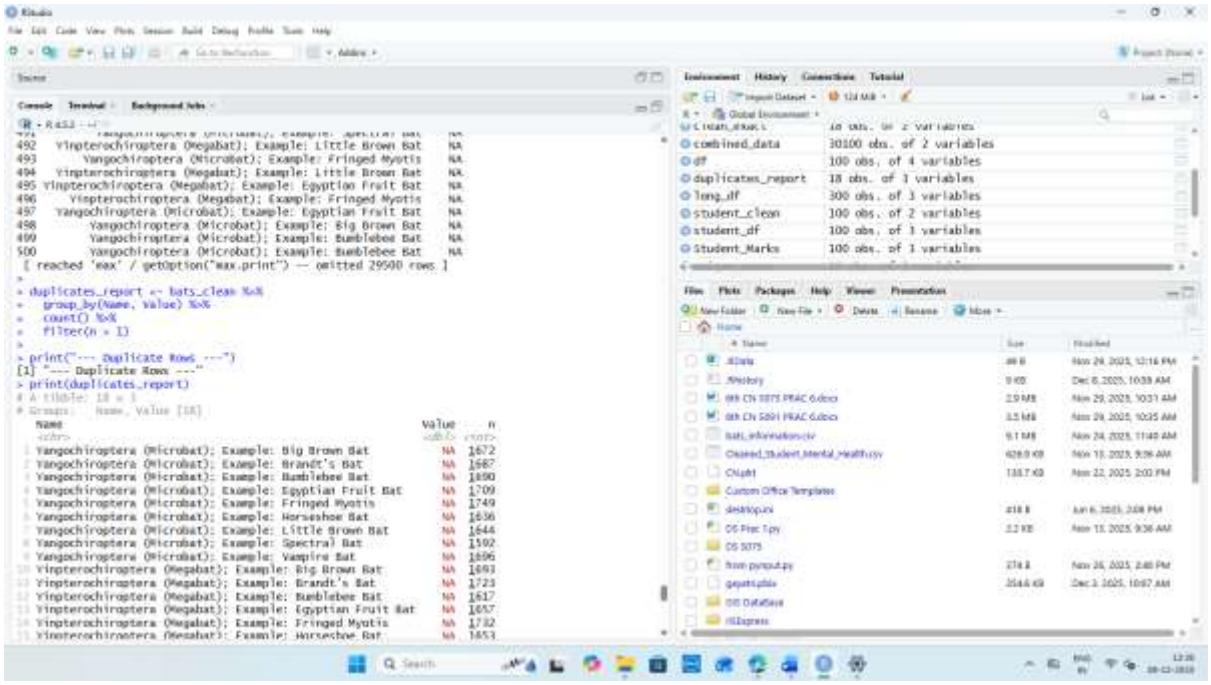

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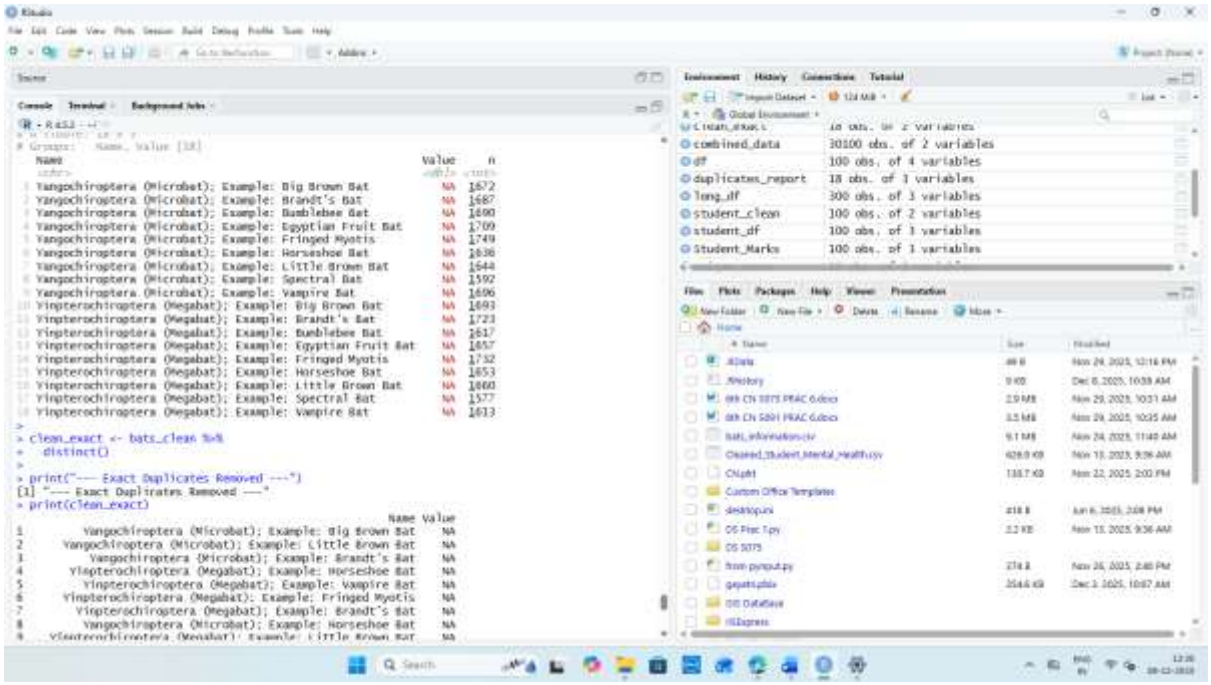

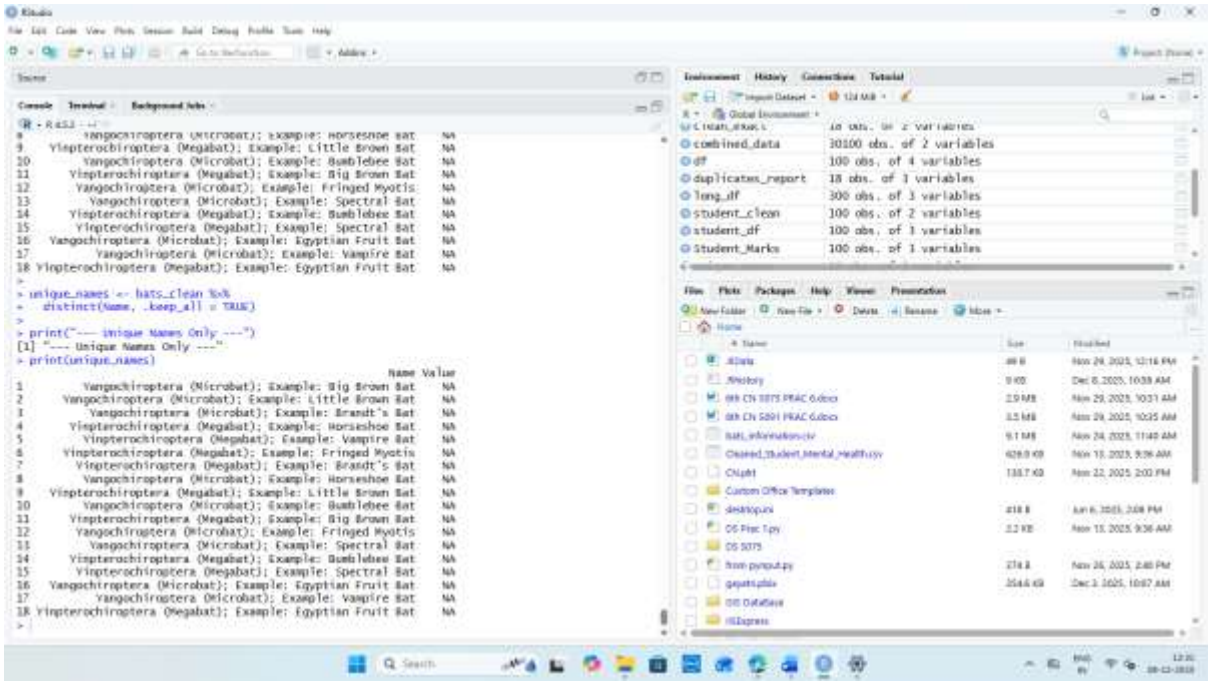

14 Extracting date components using lubridate:: functions (R).

OUTPUT:-

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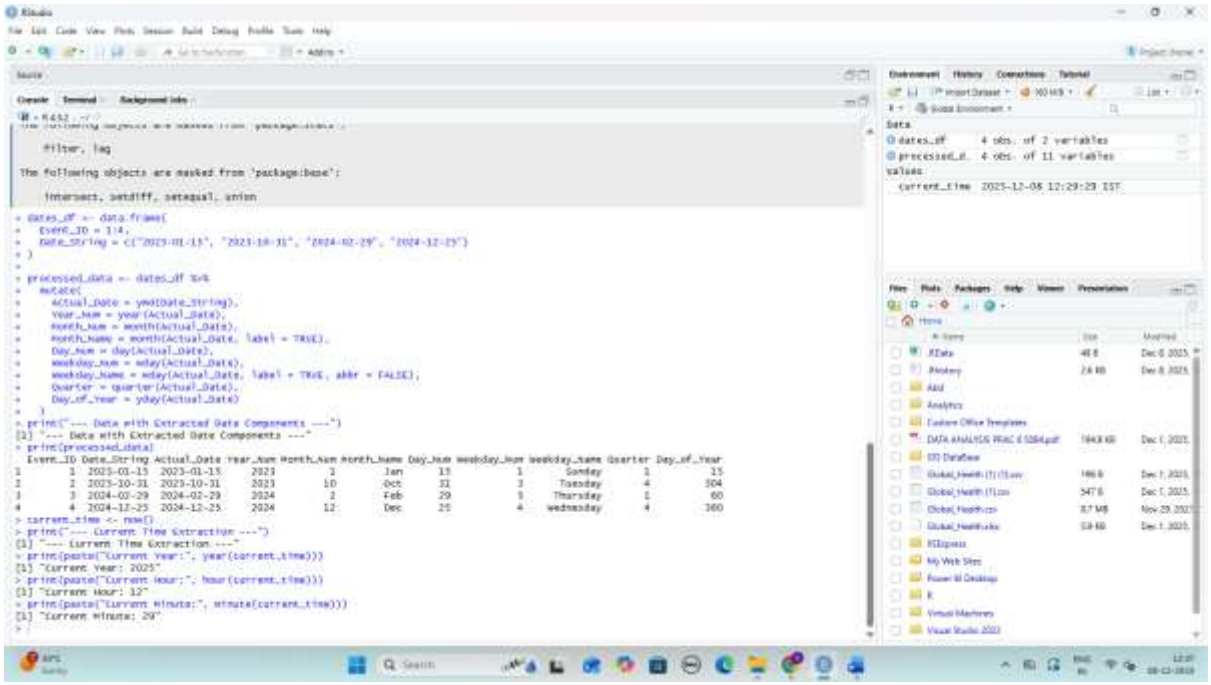
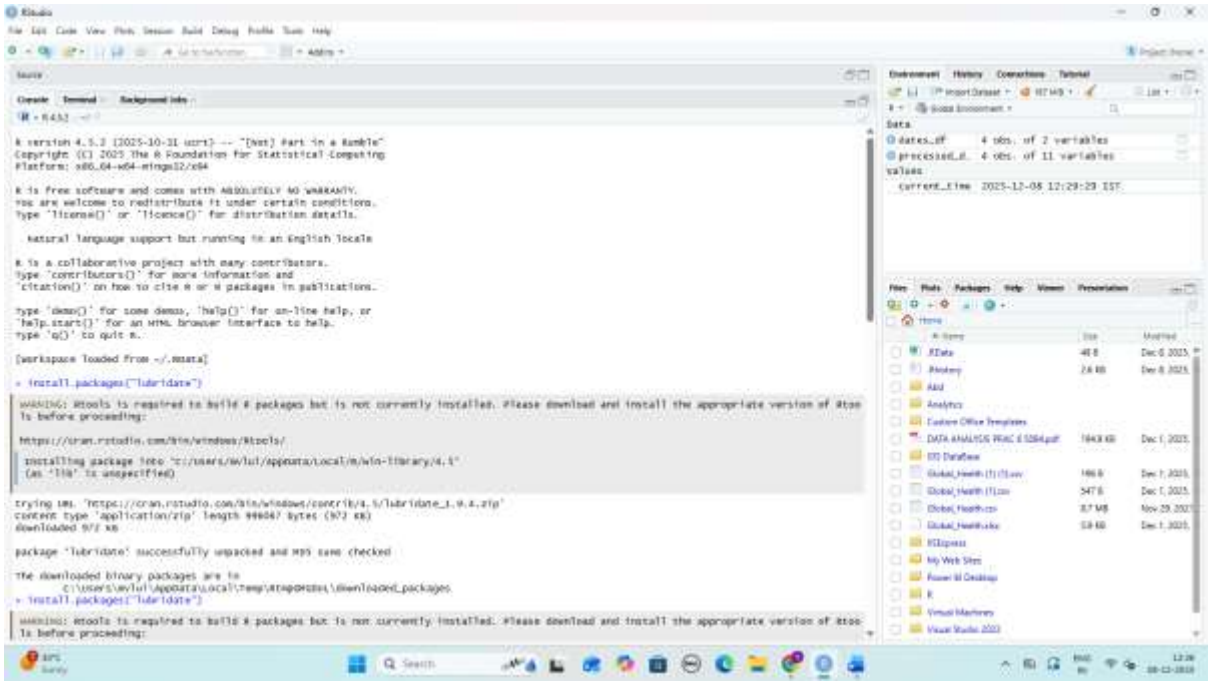


```
    filter, lag

The following objects are masked from 'package:base':

    intersect, setdiff, setequal, union

> dates_df <- data.frame(
+   Event_ID = 1:4,
+   Date_String = c("2023-01-15", "2023-10-31", "2024-02-29", "2024-12-25")
+ )
>
> processed_data <- dates_df %>%
+   mutate(
+     Actual_Date = ymd(Date_String),
+     Year_Num = year(Actual_Date),
+     Month_Num = month(Actual_Date),
+     Month_Name = month(Actual_Date, label = TRUE),
+     Day_Num = day(Actual_Date),
+     Weekday_Num = wday(Actual_Date),
+     Weekday_Name = wday(Actual_Date, label = TRUE, abbr = FALSE),
+     Quarter = quarter(Actual_Date),
+     Day_of_Year = yday(Actual_Date)
+   )
> print("--- Data with Extracted Date Components ---")
[1] "--- Data with Extracted Date Components ---"
> print(processed_data)
  Event_ID Date_String Actual_Date Year_Num Month_Num Month_Name Day_Num Weekday_Num Weekday_Name Quarter Day_of_Year
1        1  2023-01-15  2023-01-15     2023         1        Jan      15           1       Sunday       1         15
2        2  2023-10-31  2023-10-31     2023        10        Oct      31           3      Tuesday       4        304
3        3  2024-02-29  2024-02-29     2024         2        Feb      29           5     Thursday       1         60
4        4  2024-12-25  2024-12-25     2024        12        Dec      25           4    Wednesday       4        360
> current_time <- now()
> print("--- Current Time Extraction ---")
[1] "--- Current Time Extraction ---"
> print(paste("Current Year:", year(current_time)))
[1] "Current Year: 2025"
> print(paste("Current Hour:", hour(current_time)))
[1] "Current Hour: 12"
> print(paste("Current Minute:", minute(current_time)))
[1] "Current Minute: 29"
>
```



```
R version 4.5.2 (2025-10-31 ucrt) -- "[Not] Part in a Rumble"
Copyright (C) 2025 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64

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  Natural language support but running in an English locale

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Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[Workspace loaded from ~/.Rdata]

> install.packages("lubridate")
WARNING: Rtools is required to build R packages but is not currently installed. Please download and install the appropriate version of Rtoo
ls before proceeding:

https://cran.rstudio.com/bin/windows/Rtools/

Installing package into 'C:/Users/mvluj/AppData/Local/R/win-library/4.5'
(as 'lib' is unspecified)

trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.5/lubridate_1.9.4.zip'
Content type 'application/zip' length 994067 bytes (971 KB)
downloaded 971 KB

package 'lubridate' successfully unpacked and MD5 sums checked

The downloaded binary packages are in
        C:\Users\mvluj\AppData\Local\Temp\RtmpOmIGbs\downloaded_packages
> install.packages("lubridate")
WARNING: Rtools is required to build R packages but is not currently installed. Please download and install the appropriate version of Rtoo
ls before proceeding:
```

15 Generating basic summaries using str() or summary() (R).

OUTPUT:-

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PRAC 11 12 13 14 15