

PRACTICAL NO 14

AIM: Extracting date components using lubridate:: functions (R)

The screenshot displays the RStudio interface with the following components:

- Source Editor:** Contains R code for loading libraries, creating a dataset, and extracting date components. The code includes comments for each step.
- Environment:** Lists the objects in the global environment, including 'processed_orders' (5 obs. of 11 variables) and 'range_cols' (244 obs. of 7 variables).
- Files:** Shows the file explorer with various files and folders, including 'test.py', 'test.sql', 'time series data.csv', 'time.py', 'tips.csv', 'Titanic-Dataset.csv', 'TOC qb soln.pdf', 'Topaz VideoAI Projects', 'train.csv', 'userlog.sql', 'Viswanathan_Anand.docx', 'practical 11.R', 'student_health_b.csv', 'student_health_a.csv', 'practical 12.R', 'practical 13.R', 'practical 14.R', and 'practical 15.R'.

Code Snippets:

```
R - R452 - ~/
> library(lubridate)
> library(dplyr)
> # Delivery orders dataset with date as character text
> orders_df <- data.frame(
+   Order_ID = 1:5,
+   Order_Date = c("2023-03-12", "2023-11-02", "2024-01-05", "2024-07-18", "2024-12-31")
+ )
> print("---- Original Dataset ----")
[1] "---- Original Dataset ----"
> print(orders_df)
  Order_ID Order_Date
1         1 2023-03-12
2         2 2023-11-02
3         3 2024-01-05
4         4 2024-07-18
5         5 2024-12-31
> processed_orders <- orders_df %>%
+   mutate(
+     Actual_Date = ymd(Order_Date), # Convert text to Date format
+     Year = year(Actual_Date), # Extract year
+     Month_Number = month(Actual_Date), # Month number (1-12)
+     Month_Name = month(Actual_Date, label = TRUE), # Abbreviated month name
+     Day = day(Actual_Date), # Day of month
+     Weekday_Number = wday(Actual_Date), # 1=Sunday, 7=Saturday
+     Weekday_Name = wday(Actual_Date, label = TRUE, abbr = FALSE), # Full weekday name
+     Quarter = quarter(Actual_Date), # Quarter (1-4)
+     Day_Of_Year = yday(Actual_Date) # Day count in the year
+   )
> print("---- Dataset with Extracted Components ----")
[1] "---- Dataset with Extracted Components ----"
> print(processed_orders)
  Order_ID Order_Date Actual_Date Year Month_Number Month_Name Day Weekday_Number Weekday_Name
1         1 2023-03-12 2023-03-12 2023         3      Mar 12         1      Sunday
2         2 2023-11-02 2023-11-02 2023        11     Nov  2         5     Thursday
3         3 2024-01-05 2024-01-05 2024         1      Jan  5         6      Friday
4         4 2024-07-18 2024-07-18 2024         7      Jul 18         5     Thursday
5         5 2024-12-31 2024-12-31 2024        12     Dec 31         3     Tuesday
  Quarter Day_Of_Year
1         1          71
2         4         306
3         1           5
4         3         200
5         4         366
> current_time <- now()
> print("---- Current System Time Info ----")
[1] "---- Current System Time Info ----"
> print(paste("Current Year:", year(current_time)))
[1] "Current Year: 2025"
> print(paste("Current Month:", month(current_time)))
[1] "Current Month: 12"
> print(paste("Current Day:", day(current_time)))
[1] "Current Day: 8"
> print(paste("Current Hour:", hour(current_time)))
[1] "Current Hour: 11"
> print(paste("Current Minute:", minute(current_time)))
[1] "Current Minute: 28"
>
```