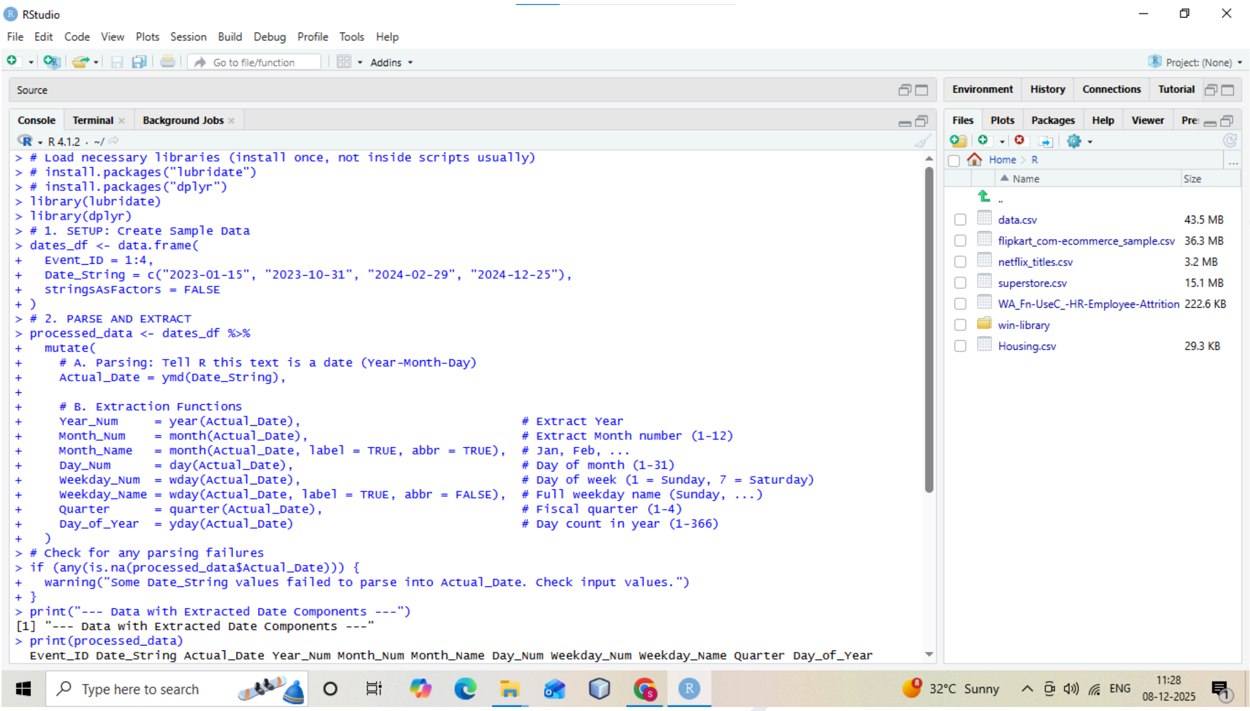
SHETH L.U.J. AND SIR M.V. COLLEGE

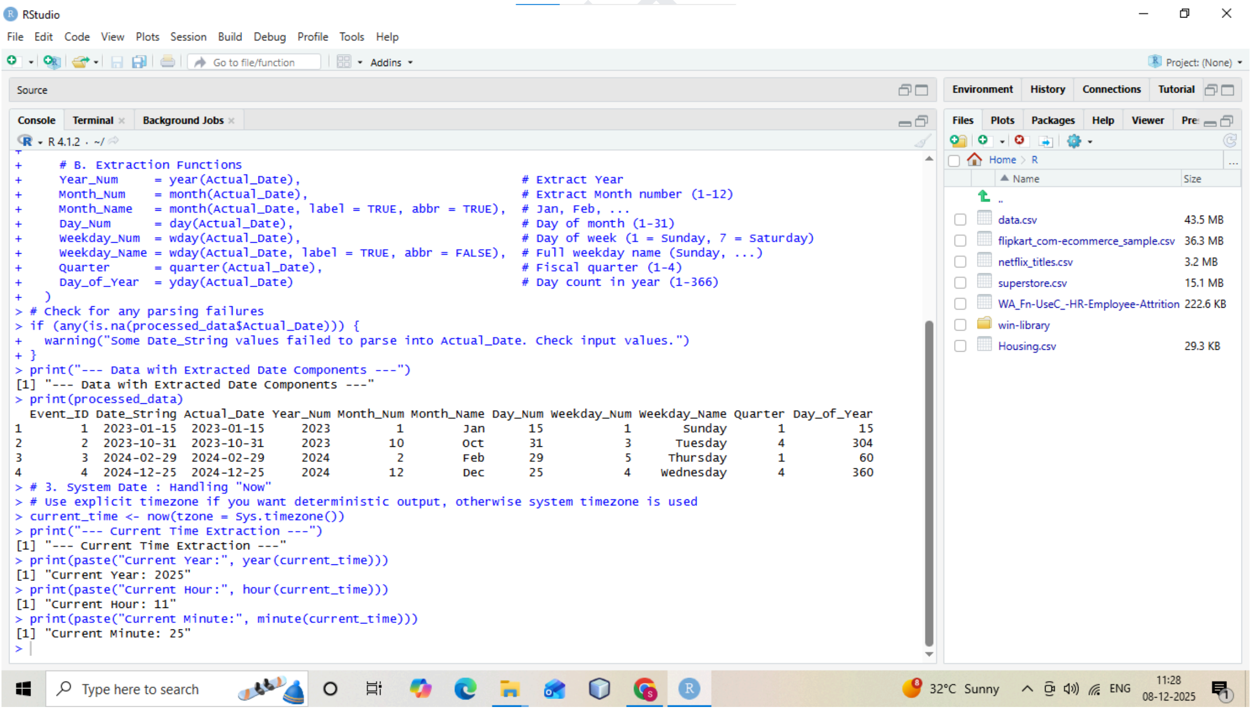
PRACTICAL NO 14

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



```
> # Load necessary libraries (install once, not inside scripts usually)
> # install.packages("lubridate")
> # install.packages("dplyr")
> library(lubridate)
> library(dplyr)
> # 1. SETUP: Create Sample Data
> dates_df <- data.frame(
+   Event_ID = 1:4,
+   Date_String = c("2023-01-15", "2023-10-31", "2024-02-29", "2024-12-25"),
+   stringsAsFactors = FALSE
+ )
> # 2. PARSE AND EXTRACT
> processed_data <- dates_df %>%
+   mutate(
+     # A. Parsing: Tell R this text is a date (Year-Month-Day)
+     Actual_Date = ymd(Date_String),
+
+     # B. Extraction Functions
+     Year_Num     = year(Actual_Date),                          # Extract Year
+     Month_Num    = month(Actual_Date),                         # Extract Month number (1-12)
+     Month_Name   = month(Actual_Date, label = TRUE, abbr = TRUE),  # Jan, Feb, ...
+     Day_Num      = day(Actual_Date),                           # Day of month (1-31)
+     Weekday_Num  = wday(Actual_Date),                          # Day of week (1 = Sunday, 7 = Saturday)
+     Weekday_Name = wday(Actual_Date, label = TRUE, abbr = FALSE),  # Full weekday name (Sunday, ...)
+     Quarter      = quarter(Actual_Date),                       # Fiscal quarter (1-4)
+     Day_of_Year  = yday(Actual_Date)                           # Day count in year (1-366)
+   )
> # Check for any parsing failures
> if (any(is.na(processed_data$Actual_Date))) {
+   warning("Some Date_String values failed to parse into Actual_Date. Check input values.")
+ }
> 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
```

Name	Size
data.csv	43.5 MB
flipkart_com-ecommerce_sample.csv	36.3 MB
netflix_titles.csv	3.2 MB
superstore.csv	15.1 MB
WA_Fn-UseC_-HR-Employee-Attrition	222.6 KB
win-library	
Housing.csv	29.3 KB



```
+
+     # B. Extraction Functions
+     Year_Num     = year(Actual_Date),                          # Extract Year
+     Month_Num    = month(Actual_Date),                         # Extract Month number (1-12)
+     Month_Name   = month(Actual_Date, label = TRUE, abbr = TRUE),  # Jan, Feb, ...
+     Day_Num      = day(Actual_Date),                           # Day of month (1-31)
+     Weekday_Num  = wday(Actual_Date),                          # Day of week (1 = Sunday, 7 = Saturday)
+     Weekday_Name = wday(Actual_Date, label = TRUE, abbr = FALSE),  # Full weekday name (Sunday, ...)
+     Quarter      = quarter(Actual_Date),                       # Fiscal quarter (1-4)
+     Day_of_Year  = yday(Actual_Date)                           # Day count in year (1-366)
+   )
> # Check for any parsing failures
> if (any(is.na(processed_data$Actual_Date))) {
+   warning("Some Date_String values failed to parse into Actual_Date. Check input values.")
+ }
> 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
> # 3. System Date : Handling "Now"
> # Use explicit timezone if you want deterministic output, otherwise system timezone is used
> current_time <- now(tzone = Sys.timezone())
> 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: 11"
> print(paste("Current Minute:", minute(current_time)))
[1] "Current Minute: 25"
> 
```

Name	Size
data.csv	43.5 MB
flipkart_com-ecommerce_sample.csv	36.3 MB
netflix_titles.csv	3.2 MB
superstore.csv	15.1 MB
WA_Fn-UseC_-HR-Employee-Attrition	222.6 KB
win-library	
Housing.csv	29.3 KB

S090_MADESH SIVAKUMAR