

MVLU COLLEGE R PRACTICAL 14

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

Output:

The first screenshot shows the RStudio console with the following code and output:

```
R - R4.1.2 ~ /
> 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
1	2023-01-15	2023-01-15	2023	1	Jan	15	1
2	2023-10-31	2023-10-31	2023	10	Oct	31	3
3	2024-02-29	2024-02-29	2024	2	Feb	29	5
4	2024-12-25	2024-12-25	2024	12	Dec	25	4

The second screenshot shows the continuation of the R code execution:

```
> print(processed_data)
  Event_ID Date_String Actual_Date Year_Num Month_Num Month_Name Day_Num Weekday_Num
1         1 2023-01-15 2023-01-15     2023         1      Jan      15         1
2         2 2023-10-31 2023-10-31     2023        10      Oct      31         3
3         3 2024-02-29 2024-02-29     2024         2      Feb      29         5
4         4 2024-12-25 2024-12-25     2024        12      Dec      25         4
  weekday_Name Quarter Day_of_Year
1      Sunday         1          15
2    Tuesday         4          304
3   Thursday         1           60
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: 12"
> print(paste("Current Minute:", minute(current_time)))
[1] "Current Minute: 45"
> |
```

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