

PRACTICAL NO : 14

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

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RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Source Terminal Background Jobs
> #-----#
> # R Script: Extracting Date Components using lubridate
> #-----#
> # Load necessary libraries
> install.packages("lubridate")
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/IT-04/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 996067 bytes (972 KB)
downloaded 972 KB

package 'lubridate' successfully unpacked and MD5 sums checked

The downloaded binary packages are in
  c:/users/IT-04/AppData/Local/RtmpgdGw1/downloaded_packages
> # install.packages("dplyr")
> library(lubridate)

Attaching package: 'lubridate'

The following objects are masked from 'package:base':
  date, intersect, setdiff, union
> library(dplyr)

[1] "08-12-2025"

```

```

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> #-----#
> # 1. SETUP: Create Sample Data
> #-----#
> # we start with dates stored as character text (ISO format YYYY-MM-DD)
> dates_df <- data.frame(
+   Event_ID = 1:4,
+   Date_String = c("2023-03-05", "2023-05-08", "2024-01-09", "2025-01-15")
+ )
> #-----#
> # 2. PARSE AND EXTRACT
> #-----#
> # Step A: Convert String to Date object using ymd()
> # Step B: Extract specific components
> 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 (e.g., 2023)
+     Month_Num = month(Actual_Date),          # Extract Month Number (1-12)
+     Month_Name = month(Actual_Date, label = TRUE), # Extract Name (Jan, Feb,...)
+     Day_Num = day(Actual_Date),              # Extract Day of Month (1-31)
+     Day_Name = month.abb[day(Actual_Date)]  # Extract Day of Week (Mon, Tue,...)
+   )
[1] "08-12-2025"

```

Sheth L.U.J. College of Arts & Sir M.V. College Of Science & Commerce
SUBJECT NAME: Data Analysis with SAS / SPSS/R

The screenshot shows the RStudio interface with the following details:

- File Menu:** File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, Help.
- Toolbar:** Includes icons for file operations like Open, Save, Print, and a search bar labeled "Go to file/function".
- Source Editor:** Shows R code for date extraction and manipulation, including functions like `mutate`, `ymd`, `month`, `name`, `day`, `weekday`, and `quarter`.
- Console:** Displays the output of the R code, including data frames and their dimensions.
- Environment View:** Shows the global environment with objects like `final_superstore`, `housing`, `insurance`, etc., along with their sizes and variable counts.
- File Explorer:** Shows the local file system with files like ".RData", ".history", "American_Housing_Data_20231209.RData", "Bills.pdf", "Custom Office Templates", "desktop.ini", "Downloads", "Downloads - Copy", "GIS DataBase", "IISExpress", "My Music", "My Pictures", and "Mv Videos".
- Help and Support:** Includes links for Environment, History, Connections, Tutorial, and a Snipping Tool for screenshots.
- Status Bar:** Shows the current temperature (30°C), system status (ENG IN), and the date (08-12-2025).

The screenshot shows an RStudio interface with the following details:

- Header:** RStudio, File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, Help.
- Toolbar:** Go to file/function, Addins.
- Source:** Console tab active, showing R code and its output. The code includes date manipulation functions like `wday`, `quarter`, and `dayofyear`, and prints extracted date components for various dates. It also handles the current system timestamp and prints current time extraction.
- Environment:** Shows the Global Environment with objects like `final_superstore` (9994 obs. of 24 variables), `housing` (1000 obs. of 8 variables), and `my_data` (1000 obs. of 8 variables).
- Files:** Home directory listing files and folders: .RData, .History, American_Housing_Data_20231209.csv, American_Housing_Data_20231209.csv.zip, Bills.pdf, Custom Office Templates, desktop.ini, Downloads, Downloads - Copy, GIS DataBase, IISExpress, My Music, My Pictures, Mv Videos.
- Bottom:** Taskbar with icons for Start, Search, File Explorer, Task View, and a battery icon showing 30% charge.