

SHETH L.U.J & SIR M.V COLLEGE OF SCIENCE

SUBJECT : Data Analysis with SAS / SPSS / R

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

OUTPUT

The screenshot displays the RStudio interface with the following content:

```
> coffee_df <- read.csv("coffe.csv")
> print("--- Original Data ---")
[1] --- Original Data ---
> print(head(coffee_df))
  hour_of_day cash_type money coffee_name Time_of_Day Weekday Month_name Weekdaysort Monthsort
1         10      card  38.7      Latte      Morning    Fri      Mar          5          3
2         12      card  38.7 Hot Chocolate Afternoon    Fri      Mar          5          3
3         12      card  38.7 Hot Chocolate Afternoon    Fri      Mar          5          3
4         13      card  28.9      Americano Afternoon    Fri      Mar          5          3
5         13      card  38.7      Latte      Afternoon    Fri      Mar          5          3
6         15      card  33.8 Americano with Milk Afternoon    Fri      Mar          5          3

  Date      Time
1 01-03-2024 15:50.5
2 01-03-2024 19:22.5
3 01-03-2024 20:18.1
4 01-03-2024 46:33.0
5 01-03-2024 48:14.6
6 01-03-2024 39:47.7
> print(head(coffee_df))
  hour_of_day cash_type money coffee_name Time_of_Day Weekday Month_name Weekdaysort Monthsort
1         10      card  38.7      Latte      Morning    Fri      Mar          5          3
2         12      card  38.7 Hot Chocolate Afternoon    Fri      Mar          5          3
3         12      card  38.7 Hot Chocolate Afternoon    Fri      Mar          5          3
4         13      card  28.9      Americano Afternoon    Fri      Mar          5          3
5         13      card  38.7      Latte      Afternoon    Fri      Mar          5          3
6         15      card  33.8 Americano with Milk Afternoon    Fri      Mar          5          3

  Date      Time
1 01-03-2024 15:50.5
2 01-03-2024 19:22.5
3 01-03-2024 20:18.1
4 01-03-2024 46:33.0
5 01-03-2024 48:14.6
```

```
> processed_data <- coffee_df %>%
+   mutate(
+     Actual_Date = dmy(Date),
+     Actual_Time = hms(Time),
+     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),
+     Hour = hour(Actual_Time),
+     Minute = minute(Actual_Time),
+     Second = second(Actual_Time)
+   )
> print("--- Data with Extracted Date & Time Components ---")
[1] --- Data with Extracted Date & Time Components ---
> print(head(processed_data))
  hour_of_day cash_type money coffee_name Time_of_Day Weekday Month_name Weekdaysort Monthsort
1         10      card  38.7      Latte      Morning    Fri      Mar          5          3
2         12      card  38.7 Hot Chocolate Afternoon    Fri      Mar          5          3
3         12      card  38.7 Hot Chocolate Afternoon    Fri      Mar          5          3
4         13      card  28.9      Americano Afternoon    Fri      Mar          5          3
5         13      card  38.7      Latte      Afternoon    Fri      Mar          5          3
6         15      card  33.8 Americano with Milk Afternoon    Fri      Mar          5          3
```

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The screenshot displays the RStudio interface with the following components:

- Source Editor:** Contains R code for data processing and time extraction.
- Console:** Shows the output of the R code, including the head of the 'processed_data' dataset and the current time.
- Environment:** Lists the objects in the global environment, including 'processed_data'.
- Files:** Shows the file explorer with various files and folders.

R Code:

```
> print(head(processed_data))
  hour_of_day cash_type money coffee_name Time_of_Day Weekday Month_name Weekdaysort Monthsort
1         10      card  38.7         Latte      Morning      Fri        Mar          5          3
2         12      card  38.7      Hot Chocolate      Afternoon     Fri        Mar          5          3
3         12      card  38.7      Hot Chocolate      Afternoon     Fri        Mar          5          3
4         13      card  28.9      Americano      Afternoon     Fri        Mar          5          3
5         13      card  38.7         Latte      Afternoon     Fri        Mar          5          3
6         15      card  33.8 Americano with Milk      Afternoon     Fri        Mar          5          3

  Date      Time Actual_Date Actual_Time Year_Num Month_Num Month_Name Day_Num Weekday_Num Weekday_Name
1 01-03-2024 15:50.5 2024-03-01 15H 50M 5S 2024          3          Mar          1          6          Friday
2 01-03-2024 19:22.5 2024-03-01 19H 22M 5S 2024          3          Mar          1          6          Friday
3 01-03-2024 20:18.1 2024-03-01 20H 18M 1S 2024          3          Mar          1          6          Friday
4 01-03-2024 46:33.0 2024-03-01 46H 33M 0S 2024          3          Mar          1          6          Friday
5 01-03-2024 48:14.6 2024-03-01 48H 14M 6S 2024          3          Mar          1          6          Friday
6 01-03-2024 39:47.7 2024-03-01 39H 47M 7S 2024          3          Mar          1          6          Friday

Quarter Day_of_Year Hour Minute Second
1         1         61         15         50         5
2         1         61         19         22         5
3         1         61         20         18         1
4         1         61         46         33         0
5         1         61         48         14         6
6         1         61         39         47         7

> 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: 11"
> print(paste("Current Minute:", minute(current_time)))
[1] "Current Minute: 44"
```

Console Output:

```
1 10 card 38.7 Latte Morning Fri Mar 5 3 01-03-2024 15:5
2 12 card 38.7 Hot Chocolate Afternoon Fri Mar 5 3 01-03-2024 19:2
3 12 card 38.7 Hot Chocolate Afternoon Fri Mar 5 3 01-03-2024 20:1
4 13 card 28.9 Americano Afternoon Fri Mar 5 3 01-03-2024 46:3
5 13 card 38.7 Latte Afternoon Fri Mar 5 3 01-03-2024 48:1
6 15 card 33.8 Americano with Milk Afternoon Fri Mar 5 3 01-03-2024 39:4
7 16 card 38.7 Hot Chocolate Afternoon Fri Mar 5 3 01-03-2024 19:0
8 18 card 33.8 Americano with Milk Night Fri Mar 5 3 01-03-2024 39:0
9 19 card 38.7 Cocoa Night Fri Mar 5 3 01-03-2024 22:0
10 19 card 33.8 Americano with Milk Night Fri Mar 5 3 01-03-2024 23:1
11 19 card 33.8 Americano with Milk Night Fri Mar 5 3 01-03-2024 29:1
12 10 card 28.9 Americano Morning Sat Mar 6 3 02-03-2024 22:0
13 10 card 33.8 Americano with Milk Morning Sat Mar 6 3 02-03-2024 41:4
14 11 card 33.8 Americano with Milk Morning Sat Mar 6 3 02-03-2024 59:4
15 14 card 28.9 Americano Afternoon Sat Mar 6 3 02-03-2024 38:3
16 16 card 33.8 Americano with Milk Afternoon Sat Mar 6 3 02-03-2024 37:2
17 17 card 28.9 Americano Night Sat Mar 6 3 02-03-2024 34:5
18 10 card 38.7 Latte Morning Sun Mar 7 3 03-03-2024 27:1
19 11 card 28.9 Cortado Morning Sun Mar 7 3 03-03-2024 33:5
20 12 card 28.9 Americano Afternoon Sun Mar 7 3 03-03-2024 26:5
```

Environment:

- Global Environment
- 0 obs. of 6 variables
- nirf 100 obs. of 11 variab...
- nirf_cle 100 obs. of 11 variab...
- nirf_uni 100 obs. of 11 variab...
- processe 3547 obs. of 24 varia...

Files:

- .RData 9.9 KB
- Rhistory 5.8 KB
- bl.pbix 340 KB
- Custom Office Templates
- GIS DataBase
- IISExpress
- My Web Sites
- NetBeansProjects
- Power BI Desktop
- Virtual Machines
- Visual Studio 2022
- local_authority_traffic.csv 327.5 KB
- NIRF Ranking 2016.csv 12.3 KB

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RStudio interface showing a data table with columns: Time, Actual_Date, Actual_Time, Year_Num, Month_Num, Month_Name, Day_Num, Weekday_Num, Weekday_Name, Quarter. The table contains 20 rows of data for March 2024. The right sidebar shows the Environment pane with variables like duplicat..., nirf, nirf_cle..., nirf_uni..., processe..., and current.... The bottom status bar shows 'Showing 1 to 20 of 3,547 entries, 24 total columns'.

	Time	Actual_Date	Actual_Time	Year_Num	Month_Num	Month_Name	Day_Num	Weekday_Num	Weekday_Name	Quarter
13-2024	15:50.5	2024-03-01	15H 50M 55	2024	3	Mar	1	6	Friday	
13-2024	19:22.5	2024-03-01	19H 22M 55	2024	3	Mar	1	6	Friday	
13-2024	20:18.1	2024-03-01	20H 18M 15	2024	3	Mar	1	6	Friday	
13-2024	46:33.0	2024-03-01	46H 33M 05	2024	3	Mar	1	6	Friday	
13-2024	48:14.6	2024-03-01	48H 14M 65	2024	3	Mar	1	6	Friday	
13-2024	39:47.7	2024-03-01	39H 47M 75	2024	3	Mar	1	6	Friday	
13-2024	19:02.8	2024-03-01	19H 2M 85	2024	3	Mar	1	6	Friday	
13-2024	39:03.6	2024-03-01	39H 3M 65	2024	3	Mar	1	6	Friday	
13-2024	22:01.8	2024-03-01	22H 1M 85	2024	3	Mar	1	6	Friday	
13-2024	23:15.9	2024-03-01	23H 15M 95	2024	3	Mar	1	6	Friday	
13-2024	29:17.4	2024-03-01	29H 17M 45	2024	3	Mar	1	6	Friday	
13-2024	22:07.0	2024-03-02	22H 7M 05	2024	3	Mar	2	7	Saturday	
13-2024	41:41.2	2024-03-02	41H 41M 25	2024	3	Mar	2	7	Saturday	
13-2024	59:45.5	2024-03-02	59H 45M 55	2024	3	Mar	2	7	Saturday	
13-2024	38:35.5	2024-03-02	38H 35M 55	2024	3	Mar	2	7	Saturday	
13-2024	37:24.5	2024-03-02	37H 24M 55	2024	3	Mar	2	7	Saturday	
13-2024	34:55.0	2024-03-02	34H 55M 05	2024	3	Mar	2	7	Saturday	
13-2024	27:18.6	2024-03-03	27H 18M 65	2024	3	Mar	3	1	Sunday	
13-2024	33:56.1	2024-03-03	33H 56M 15	2024	3	Mar	3	1	Sunday	
13-2024	26:56.1	2024-03-03	26H 56M 15	2024	3	Mar	3	1	Sunday	