

# **SETH L.U.J and SIR M.V COLLEGE**

## **PRAC 11 12 13 14 15**

**AIM:- 11 Reshaping data using pivot\_longer()/pivot\_wider() (R).**

The screenshot shows the RStudio interface. The left pane contains an R script with the following code:

```
library(dplyr)
library(tidyverse)
# Load student marks data and add studentID
df <- read_csv("C:/Users/mayank/Desktop/students_marks.csv", na.strings = c("", "NA"))
studentID <- row_number(df) %>% select(-studentID, number_courses, time_study, marks)
# Print original wide data
# df %>% print()
# Print head of df
studentID %>% number_courses %>% time_study %>% marks
# Pivot longer to stack study metrics and marks into long format
long_df <- df %>%
  pivot_longer(
    cols = c(number_courses, time_study, marks),
    names_to = "metric",
    values_to = "value"
  )
# Print long format
print("L. long format (pivot_longer) ---")
```

The right pane shows a file browser with the following contents:

- Document History Connections Tutorial
- Import Dataset (10 KB)
- Global Environment
- data
  - category\_df (100 obs. of 7 variables)
  - df (100 obs. of 4 variables)
  - long\_df (300 obs. of 3 variables)
  - student\_marks (300 obs. of 8 variables)
  - wide\_df (100 obs. of 4 variables)
- Files Plots Packages Help View Presentation
- New Folder New File Data -> Analysis Help
- Home
  - JData (49 KB) Nov 28, 2023, 12:16 PM
  - History (8 KB) Dec 8, 2023, 10:58 AM
  - new CN 2023 PRAC Survey (29 KB) Nov 28, 2023, 10:57 AM
  - new CS 2023 PRAC Survey (25 KB) Nov 28, 2023, 10:55 AM
  - new\_informations (8 KB) Nov 24, 2023, 11:40 AM
  - Desired\_Student\_Mental\_Healthcare (62 KB) Nov 13, 2023, 9:00 AM
  - Output (151 KB) Nov 22, 2023, 2:09 PM
  - Custom Office Templates
  - Archives
  - CS\_Prac\_Spy (22 KB) Nov 13, 2023, 9:00 AM
  - CS\_9075
    - team\_pypalpy (174 KB) Nov 26, 2023, 3:40 PM
    - payroll (154 KB) Dec 3, 2023, 10:07 AM
    - CS Database (154 KB) Dec 3, 2023, 10:07 AM
    - Hilary
    - My Data Sources
    - My Web Sites

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The screenshot shows the RStudio interface with the following details:

- Top Bar:** Studio, File, Edit, Code, View, Plots, Session, Build, Debug, Tools, Help.
- Left Panel:** Environment, History, Connections, Tutorial.
- Right Panel:** Data pane showing objects: category\_id, id, long\_id, student\_marks, while\_dt.
- Code Editor:** Contains R code for generating a long format dataset, creating a student ID, and pivoting data by number\_courses and Marks.
- Console:** Shows the output of the R code, including the generated dataset and its summary statistics.
- File Explorer:** Shows the project structure with files like Admissions, Whistler, and various RDS files.

## 12 Combining datasets vertically (concatenation) using rbind() (R).

**AIM:- 13** Identifying and handling duplicates using distinct() (R).

## **OUTPUT:-**

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```

## RStudio
File Edit Code View Plots Session Build Debug Tools Sum Help
D - RStudio - 14
Global Options: Name: Status [32]
Console Terminal Background Jobs
R - RStudio - 14
# Global Options: Name: Status [32]
# Name: Status [32]
# Value: 0
# <-->
# Yngochiroptera (Microbat); Example: Big Brown Bat NA 1672
# Yngochiroptera (Microbat); Example: Brandt's Bat NA 1687
# Yngochiroptera (Microbat); Example: Bubblebee Bat NA 1690
# Yngochiroptera (Microbat); Example: Egyptian Fruit Bat NA 1709
# Yngochiroptera (Microbat); Example: Fringed Myotis NA 1749
# Yngochiroptera (Microbat); Example: Horseshoe Bat NA 1838
# Yngochiroptera (Microbat); Example: Little Brown Bat NA 1844
# Yngochiroptera (Microbat); Example: Spectral Bat NA 1992
# Yngochiroptera (Microbat); Example: Vampire Bat NA 1993
# Yngochiroptera (Megabat); Example: Big Brown Bat NA 1693
# Yngochiroptera (Megabat); Example: Brandt's Bat NA 1723
# Yngochiroptera (Megabat); Example: Bubblebee Bat NA 1817
# Yngochiroptera (Megabat); Example: Egyptian Fruit Bat NA 1857
# Yngochiroptera (Megabat); Example: Fringed Myotis NA 1732
# Yngochiroptera (Megabat); Example: Horseshoe Bat NA 1853
# Yngochiroptera (Megabat); Example: Little Brown Bat NA 1860
# Yngochiroptera (Megabat); Example: Spectral Bat NA 1977
# Yngochiroptera (Megabat); Example: Vampire Bat NA 1913
> Clean_exact <- bats_clean %>%
> distinct()
>
> print("---- Exact Duplicates Removed ----")
[1] "---- Exact Duplicates Removed ----"
> print(Clean_exact)
      Name  Value
1  Yngochiroptera (Microbat); Example: big brown bat NA
2  Yngochiroptera (Microbat); Example: little brown bat NA
3  Yngochiroptera (Microbat); Example: brandt's bat NA
4  Yngochiroptera (Megabat); Example: horseshoe bat NA
5  Yngochiroptera (Megabat); Example: vampire bat NA
6  Yngochiroptera (Megabat); Example: fringed myotis NA
7  Yngochiroptera (Megabat); Example: brandt's bat NA
8  Yngochiroptera (Microbat); Example: horseshoe bat NA
9  Yngochiroptera (Megabat); Example: little brown bat NA
>
unique_names <- bats_clean %>%
duplicated %>%
keep_all = TRUE
>
print("---- Unique Names Only ----")
[1] "---- Unique Names Only ----"
> print(unique_names)
      Name  Value
1  Yngochiroptera (Microbat); Example: Big Brown Bat NA
2  Yngochiroptera (Microbat); Example: Little Brown Bat NA
3  Yngochiroptera (Microbat); Example: Brandt's Bat NA
4  Yngochiroptera (Megabat); Example: Horseshoe Bat NA
5  Yngochiroptera (Megabat); Example: Vampire Bat NA
6  Yngochiroptera (Megabat); Example: Fringed Myotis NA
7  Yngochiroptera (Megabat); Example: Brandt's Bat NA
8  Yngochiroptera (Microbat); Example: Horseshoe Bat NA
9  Yngochiroptera (Megabat); Example: Little Brown Bat NA
10 Yngochiroptera (Microbat); Example: Bubblebee Bat NA
11 Yngochiroptera (Megabat); Example: Big Brown Bat NA
12 Yngochiroptera (Microbat); Example: Fringed Myotis NA
13 Yngochiroptera (Microbat); Example: Spectral Bat NA
14 Yngochiroptera (Megabat); Example: Bubblebee Bat NA
15 Yngochiroptera (Megabat); Example: Spectral Bat NA
16 Yngochiroptera (Microbat); Example: Egyptian Fruit Bat NA
17 Yngochiroptera (Microbat); Example: Vampire Bat NA
18 Yngochiroptera (Megabat); Example: Egyptian Fruit Bat NA

```

**14 Extracting date components using lubridate:: functions (R).**

**OUTPUT:-**

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## 15 Generating basic summaries using str() or summary() (R).

## **OUTPUT:-**

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