

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

## **PRAC 11**

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

**INPUT:-**

```
library(dplyr)
library(tidyr)

# 1. SETUP: Read student marks data and add StudentID

df <- read.csv("C:/Users/mvlui/Downloads/Student_Marks.csv", na.strings = c("", "NA"))
%>%
  mutate(StudentID = row_number()) %>%
  select(StudentID, number_courses, time_study, Marks)

print("--- 1. Original Wide Data ---")
print(head(df))

# 2. PIVOT_LONGER: 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("--- 2. Long Format (pivot_longer) ---")
print(head(long_df, 9)) # show first 9 rows (3 metrics per student)

# 3. PIVOT_WIDER: Spread back to wide format

wide_df <- long_df %>%
  pivot_wider(
    names_from = Metric,
    values_from = Value
```

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)

```
print("--- 3. Wide Format (Back to Original) ---")
print(head(wide_df))
```

```
# 4. ADVANCED EXAMPLE: Pivot by number_courses to see Marks distribution
```

```
category_pivot <- df %>%
  select(StudentID, number_courses, Marks) %>%
  pivot_wider(
    names_from = number_courses,
    values_from = Marks
  )
print("--- 4. Course Pivot (Spreading number_courses) ---")
print(head(category_pivot))
```

### OUTPUT:-

The screenshot shows the RStudio interface. The top-left pane displays the R script with the code for pivoting the data. The top-right pane shows the Environment view with various data frames: category\_df, df, long\_df, student\_marks, and wide\_df. The bottom-right pane shows the File Browser with a list of files and their details. The bottom-left pane shows the R console output.

```
R> # 3. Long Format (wide_df %>%)
R> print(head(long_df, 10)) # show first 10 rows (3 entries per student)
R> # 4. Course Pivot (spreading number_courses)
R> wide_df %>% 
R>   pivot_wider(
R>     names_from = metrics,
R>     values_from = value
R>   )
R> print("--- 4. Course Pivot (Spreading number_courses) ---")
R> print(head(category_pivot))
```

StudentID	number_courses	time_study	Marks
1	1	2.004	19.202
2	2	0.088	7.786
3	3	3.133	11.811
4	4	7.909	51.018
5	5	7.811	51.299
6	6	0.211	17.827

```
R> # PIVOT_WIDER: stack study.metrics and marks into long format
R> long_df <- df %>%
R>   pivot_longer(
R>     cols = c(number_courses, time_study, marks),
R>     names_to = "metric",
R>     values_to = "value"
R>   )
R> print("--- 4. long format (pivot_longer) ---")
```

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