

MVLU COLLEGE
Data analysis with SAS/SSPR/R
PRACTICAL NO.11

Aim:11. Reshaping data using pivot_longer()/pivot_wider() (R).

INPUT:

```
library(dplyr)
library(tidyr)
```

```
df <- read.csv("D:/S119/DATA ANAN/Amazon.csv", na.strings = c("", "NA")) %>%
  mutate(ProductID = row_number()) %>%
  select(ProductID, Category, UnitPrice, Discount)
```

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

```
long_df <- df %>%
  pivot_longer(
    cols = c(UnitPrice, Discount),
    names_to = "Metric",
    values_to = "Value"
  )
```

```
print("--- 2. Long Format (pivot_longer) ---")
print(head(long_df, 6))
```

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

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

```
df_clean <- df %>%
  mutate(Category = ifelse(is.na(Category), "Unknown", Category))
```

```
category_pivot <- df_clean %>%
  select(ProductID, Category, UnitPrice) %>%
  pivot_wider(
    names_from = Category,
    values_from = UnitPrice
  )
```

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```
)  
print("--- 4. Category Pivot (Spreading Categories) ---")  
print(head(category_pivot))
```

OUTPUT:

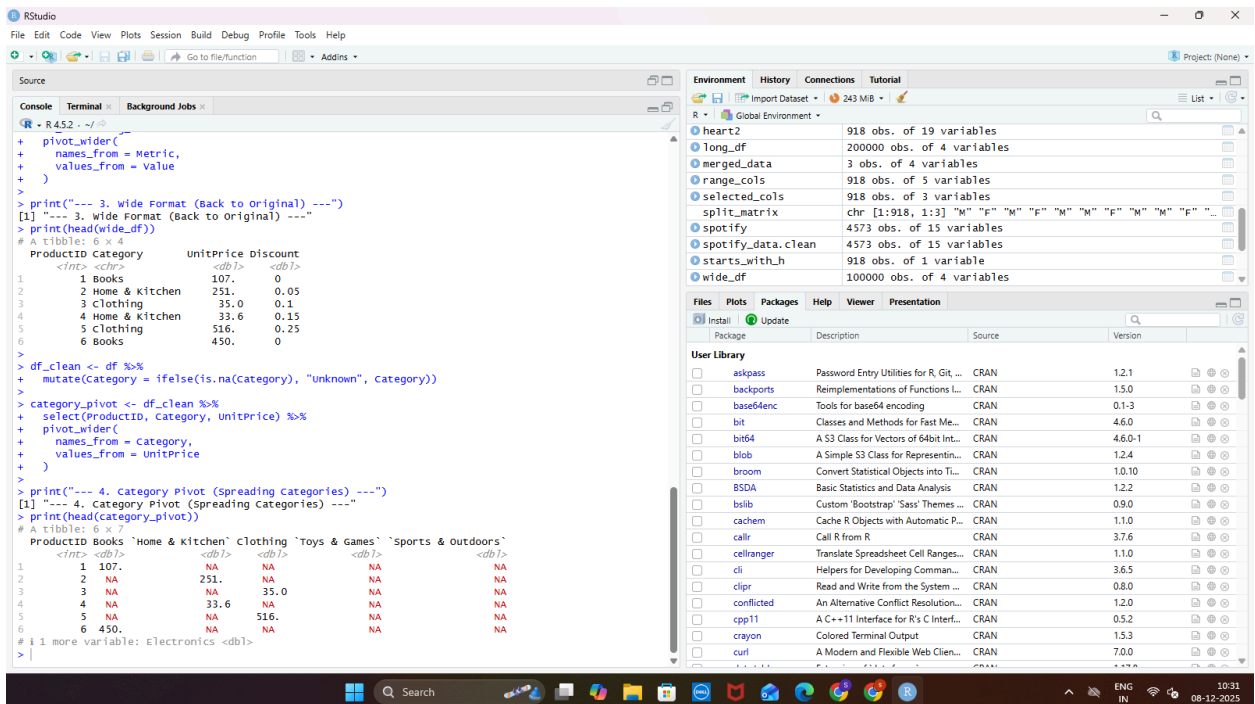
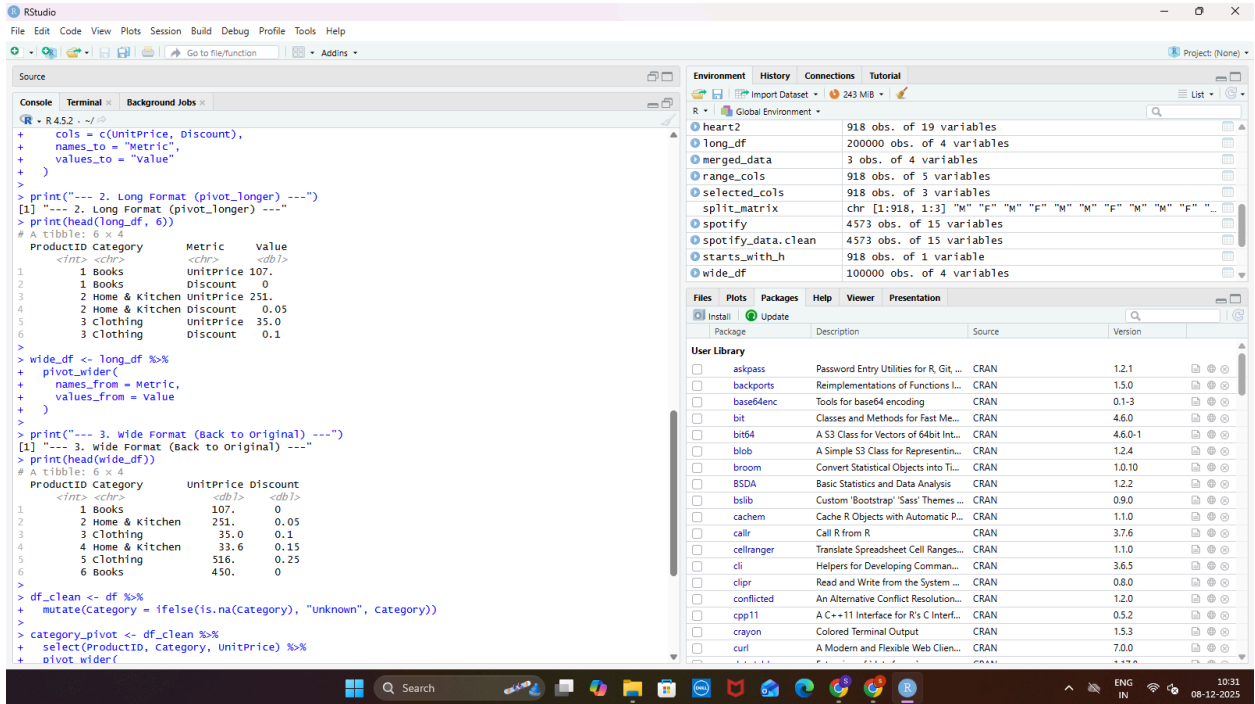
The screenshot shows the RStudio interface with the following components:

- Console:** Displays the execution of R code. It shows a warning message about a missing file 'Amazon.csv', followed by the loading of 'dplyr' and 'tidyr' libraries. The code then reads a CSV file, mutates the 'ProductID' column, and selects specific columns. It prints the original wide data and the long format data.
- Environment:** Lists the objects in the global environment, including 'heart2', 'long_df', 'merged_data', 'range_cols', 'selected_cols', 'split_matrix', 'spotify', 'spotify_data_clean', 'starts_with_h', and 'wide_df'.
- Files:** Shows the file explorer with the 'Amazon.csv' file selected.
- Plots:** Empty.
- Packages:** Shows the list of installed and available packages.
- Help:** Empty.
- Viewer:** Empty.
- Presentation:** Empty.

```
R - R452 - ~/RStudio  
File Edit Code View Plots Session Build Debug Profile Tools Help  
Go to file/function Addins  
Source  
Console  
In addition: warning message:  
In file(file, "rt") :  
cannot open file 'Amazon.csv': No such file or directory  
  
> library(dplyr)  
> library(tidyr)  
>  
> df <- read.csv("D:/S119/DATA ANAN/Amazon.csv", na.strings = c("", "NA")) %>%  
+ mutate(ProductID = row_number()) %>%  
+ select(ProductID, Category, UnitPrice, Discount)  
>  
> print("--- 1. Original wide data ---")  
[1] "--- 1. Original wide data ---"  
> print(head(df))  
  ProductID Category UnitPrice Discount  
1         1   Books    106.59     0.00  
2         2 Home & kitchen 251.37     0.05  
3         3   clothing    35.03     0.10  
4         4 Home & kitchen 33.58     0.15  
5         5   clothing   515.64     0.25  
6         6   Books     449.73     0.00  
>  
> long_df <- df %>%  
+ pivot_longer(  
+   cols = c(UnitPrice, Discount),  
+   names_to = "Metric",  
+   values_to = "Value"  
+ )  
>  
> print("--- 2. Long Format (pivot_longer) ---")  
[1] "--- 2. Long Format (pivot_longer) ---"  
> print(head(long_df, 6))  
# A tibble: 6 x 4  
  ProductID Category Metric Value  
  <int> <chr> <chr> <dbl>  
1         1 Books UnitPrice 107.  
2         1 Books Discount    0  
3         2 Home & Kitchen UnitPrice 251.  
4         2 Home & Kitchen Discount    0.05  
5         3 clothing UnitPrice 35.0  
6         3 clothing Discount    0.1
```

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