

SHETH L.U.J.AND SIR M.V. COLLEGE
PRACTICAL NO.11
Data Analysis with SAS / SPSS /R

AIM:- Reshaping data using pivot_longer() and pivot_wider() (R).

INPUT:-

```
library(dplyr)
```

```
library(tidyr)
```

```
# 1. Read Your Car Dataset
```

```
car_df <- read.csv("C:/Users/mvlui/Downloads/car_dataset.csv",  
na.strings = c("", "NA")) %>%  
mutate(CarID = row_number()) %>%  
select(CarID, brand, model, price, mileage, fuel, horsepower, transmission)
```

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

```
print(head(car_df))
```

```
# 2. pivot_longer
```

```
long_car <- car_df %>%  
pivot_longer(  
cols = c(price, mileage, horsepower),  
names_to = "Metric",  
values_to = "Value"  
)
```

```
print("--- 2. Long Format ---")
```

```
print(head(long_car, 10))
```

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```
# 3. pivot_wider  
  
wide_car <- long_car %>%  
  
pivot_wider(  
  
  names_from = Metric,  
  
  values_from = Value  
  
)  
  
  
print("--- 3. Wide Format ---")  
print(head(wide_car))
```

```
# 4. Fuel-wise Price Pivot  
  
fuel_pivot <- car_df %>%  
  
  select(CarID, fuel, price) %>%  
  
  pivot_wider(  
  
    names_from = fuel,  
  
    values_from = price  
  
)
```

```
print("--- 4. Fuel Pivot ---")  
print(head(fuel_pivot))
```

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OUTPUT:-



```
> library(dplyr)
> library(tidyr)
>
> # 1. Read Your Car Dataset
> car_df <- read.csv("C:/Users/mvlui/Downloads/car_dataset.csv",
+   na.strings = c("", "NA")) %>%
+   mutate(carID = row_number()) %>%
+   select(carID, brand, model, price, mileage, fuel, horsepower, transmission)
>
> print("--- 1. original wide Data ---")
[1] "--- 1. original wide Data ---"
> print(head(car_df))
# A tibble: 6 × 7
  carID brand  model price mileage fuel horsepower transmission
  <dbl> <chr>  <chr> <dbl>    <dbl> <chr>        <chr>
1     1 Toyota Innova 1800000      11 Diesel     150  Automatic
2     2 Hyundai Creta 1500000      17 Petrol     115  Manual
3     3 Maruti Swift 700000       22 Petrol      83  Manual
4     4 Honda City 1400000      18 Petrol     119  Automatic
5     5 Tata  Nexon 1200000      20 Diesel     110  Manual
6     6 Mahindra Thar 1700000      14 Diesel     130  Manual
>
> # 2. pivot_longer
> long_car <- car_df %>%
+   pivot_longer(
+     cols = c(price, mileage, horsepower),
+     names_to = "Metric",
+     values_to = "Value"
+   )
>
> print("--- 2. Long Format ---")
[1] "--- 2. Long Format ---"
> print(head(long_car, 10))
# A tibble: 10 × 7
  carID brand  model fuel transmission Metric  value
  <dbl> <chr>  <chr> <chr>    <chr> <chr> <dbl>
1     1 Toyota Innova Diesel Automatic price   1800000
2     1 Toyota Innova Diesel Automatic mileage 11
3     1 Toyota Innova Diesel Automatic horsepower 150
4     2 Hyundai Creta Petrol Manual  price   1500000
5     2 Hyundai Creta Petrol Manual  mileage 17
6     2 Hyundai Creta Petrol Manual  horsepower 115
7     3 Maruti Swift Petrol Manual  price   700000
8     3 Maruti Swift Petrol Manual  mileage 22
```

The screenshot shows an RStudio interface. The left pane displays the R console with the above code and its output. The right pane shows the file browser with various project files listed. The top right corner has tabs for 'Import Data', 'Global Environ', 'Data', 'Files', 'Plots', and 'Packages'.

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Console Terminal x Background Jobs x

R 4.1.2 . ~/

```
> 2 Hyundai Creta Petrol Manual      price    1500000
  2 Hyundai Creta Petrol Manual      mileage     17
  2 Hyundai Creta Petrol Manual      horsepower   115
  3 Maruti Swift Petrol Manual      price    700000
  3 Maruti Swift Petrol Manual      mileage     22
  3 Maruti Swift Petrol Manual      horsepower   83
  4 Honda City Petrol Automatic    price    1400000
>
> # 3. pivot_wider
> wide_car <- long_car %>%
+   pivot_wider(
+     names_from = Metric,
+     values_from = Value
+   )
>
> print(" --- 3. Wide Format --- ")
[1] " --- 3. Wide Format --- "
> print(head(wide_car))
# A tibble: 6 x 8
  CarID brand   model fuel transmission  price mileage horsepower
  <int> <chr>  <chr> <chr> <int>    <int>   <int>
1    1 Toyota  Innova Diesel Automatic 1800000     11     150
2    2 Hyundai Creta Petrol Manual    1500000     17     115
3    3 Maruti Swift Petrol Manual    700000      22      83
4    4 Honda   City Petrol Automatic 1400000     18     119
5    5 Tata    Nexon Diesel Manual   1200000     20     110
6    6 Mahindra Thar Diesel Manual  1700000     14     130
>
> # 4. Fuel-wise Price Pivot
> fuel_pivot <- car_df %>%
+   select(CarID, fuel, price) %>%
+   pivot_wider(
+     names_from = fuel,
+     values_from = price
+   )
>
> print(" --- 4. Fuel Pivot --- ")
[1] " --- 4. Fuel Pivot --- "
> print(head(fuel_pivot))
# A tibble: 6 x 3
  CarID Diesel Petrol
  <int>   <int> <int>
1    1 1800000    NA
```

Global Environment

Data

- car_database
- car_df
- fuel_pivot
- long_car
- wide_car

Files Plots P

- New Folder
- Home
- .Rhistory
- ~\$a 1 st
- Bhumika
- Custom
- desktop.
- GIS Data
- IISExpress
- My Web
- NetBean
- Power BI
- R
- shades.c
- Virtual N
- Visual St
- win7
- Window

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Source

Console Terminal × Background Jobs ×

R 4.1.2 · ~/

```

> # 3. pivot_wider
> wide_car <- long_car %>%
+   pivot_wider(
+     names_from = Metric,
+     values_from = value
+   )
>
> print("--- 3. Wide Format ---")
[1] "--- 3. Wide Format ---"
> print(head(wide_car))
# A tibble: 6 x 8
  CarID brand model fuel transmission price mileage horsepower
  <int> <chr> <chr> <chr> <chr> <int> <int> <int>
1     1 Toyota Innova Diesel Automatic  1800000    11    150
2     2 Hyundai Creta Petrol Manual    1500000    17    115
3     3 Maruti Swift Petrol Manual    700000     22     83
4     4 Honda City Petrol Automatic  1400000    18    119
5     5 Tata  Nexon Diesel Manual   1200000    20    110
6     6 Mahindra Thar Diesel Manual   1700000    14    130
>
> # 4. Fuel-wise Price Pivot
> fuel_pivot <- car_df %>%
+   select(CarID, fuel, price) %>%
+   pivot_wider(
+     names_from = fuel,
+     values_from = price
+   )
>
> print("--- 4. Fuel Pivot ---")
[1] "--- 4. Fuel Pivot ---"
> print(head(fuel_pivot))
# A tibble: 6 x 3
  CarID Diesel Petrol
  <int> <int> <int>
1     1 1800000    NA
2     2    NA 1500000
3     3    NA  700000
4     4    NA 1400000
5     5 1200000    NA
6     6 1700000    NA
> |

```

Environ

R Data

car_ car_ fuel long wide

Files

New Home