

Practical No 11

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

Output :

```
RStudio
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R 4.5.1 - ~
> library(dplyr)
> library(tidyr)
> library(stringr)
>
> # reading dataset
> data <- read.csv("Amazon.csv",na.strings = c("", "NA")) %>%
+   mutate(OrderID = row_number()) %>%
+   select(-OrderID,customerID,category,unitPrice,discount)
>
> print("1.Original wide Data")
[1] "1.Original wide Data"
> print(head(data))
#> # A tibble: 6 × 5
#>   OrderID CustomerID Category UnitPrice Discount
#>   <dbl>     <chr>    <chr>    <dbl>     <dbl>
#> 1 1       CUST001504 Books     106.59     0.00
#> 2 2       CUST000178 Home & Kitchen 251.37     0.05
#> 3 3       CUST047516 Clothing   35.03     0.10
#> 4 4       CUST030059 Home & Kitchen 33.58     0.15
#> 5 5       CUST048677 Clothing   515.64     0.25
#> 6 6       CUST042705 Books     449.73     0.00
>
> # 2.PIVOT_Longer (wide to Long)
>
> long_data <- data %>%
+   pivot_longer(
+     cols = c(unitPrice, discount),
+     names_to = "Metric",
+     values_to = "Value"
+   )
>
> # 3. PIVOT_WIDER (Long to wide)
>
> wide_data <- long_data %>%
+   pivot_wider(
+     names_from = Metric,
+     values_from = Value
+   )
> print("3. Wide Format (Back to original)")
[1] "3. Wide Format (Back to original)"
> print(head(wide_data))
#> # A tibble: 1 × 5
#>   OrderID CustomerID Category     <dbl>     <dbl>
#> 1 1       CUST001504 Books     107.        0
```

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>
> wide_data <- long_data %>%
+ pivot_wider(
+ names_from = Metric,
+ values_from = Value
+)
> print("3. Wide Format (Back to original)")
[1] "3. Wide Format (Back to original)"
> print(head(wide_data))
A tibble: 6 × 5
OrderID CustomerID Category unitprice discount
<dbl> <dbl> <chr> <dbl> <dbl>
1 1 CUST001504 Books 107. 0.05
2 2 CUST000178 Home & Kitchen 251. 0.05
3 3 CUST047516 Clothing 35.0 0.1
4 4 CUST030059 Home & Kitchen 33.6 0.15
5 5 CUST048677 Clothing 516. 0.25
6 6 CUST042705 Books 450. 0
>
> # 4. ADVANCED EXAMPLE (reshaping for Reporting)
>
> data_clean <- data %>%
+ mutate(Category = ifelse(is.na(Category), "Unknown", category))
> category_pivot <- data_clean %>%
+ select(OrderID, Category, UnitPrice) %>%
+ pivot_wider(
+ names_from = Category,
+ values_from = UnitPrice
+)
> print("4. Category Pivot (Spreading Categories)")
[1] "4. Category Pivot (Spreading Categories)"
> print(head(category_pivot))
A tibble: 6 × 6
OrderID Books `Home & Kitchen` Clothing `Toys & Games` `Sports & Outdoors` Electronics
<dbl> <dbl> <dbl> <dbl> <dbl> <dbl>
1 1 107. NA NA NA NA
2 2 NA 251. NA NA NA
3 3 NA NA 35.0 NA NA
4 4 NA 33.6 NA NA NA
5 5 NA NA 516. NA NA
6 6 450. NA NA NA NA
> |

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