tidyr::pivot_longer &_wider

OPPY

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Introduction : pivot_wider() "widens" data, increasing the number of columns and decreasing the number of rows. The inverse transformation is pivot_longer(). Source: R/pivot-wide.R Learn more in vignette("pivot").

Aim : to study the functionality of pivot_longer & pivot_wider then use both on a sample datasets.

Objective : At the end of this project, studier must be able to use both pivot_longer & pivot_wider on any applicable dataset.

Dataset : Orange. An inbuilt dataset in R

```
install.packages("tidyverse", lib = "/usr/lib/R/library", repos = "http://cran.us.r-project.org")
```

Package : tidyr. tidyr is one of the packages that make up the tidyverse. Tidyverse is a collection of r packages that are used for data manipulation in R.

```
## Error in install.packages("tidyverse", lib = "/usr/lib/R/library", repos = "http://cran.us.r-project
```

```
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.2 --
## v ggplot2 3.3.6     v purrr   0.3.4
## v tibble  3.1.7     v dplyr   1.0.9
## v tidyr   1.2.0     v stringr 1.4.0
## v readr   2.1.2     v forcats 0.5.1
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
data(Orange)
```

```
View(Orange)
```

Bring dataset into the global environment For the purpose of this study glimpse will be use to explore to understand the parameters of the dataset.

For more ways to understand the components and structure of your datasets see Telescope Your Dataset

```
glimpse(Orange)
```

```
## Rows: 35
## Columns: 3
```

```
## $ Tree          <ord> 1, 1, 1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 2, 2, 3, 3, 3, 3, 3,~
## $ age           <dbl> 118, 484, 664, 1004, 1231, 1372, 1582, 118, 484, 664, 10~
## $ circumference <dbl> 30, 58, 87, 115, 120, 142, 145, 33, 69, 111, 156, 172, 2~
```

pivot_wider

?pivot_wider (learn about pivot_wider)

```
Orange_2 <- Orange
```

Create same object with a new and different name, then apply pivot_wider on new object.

```
Orange_2 %>%
  pivot_wider(names_from = "age", values_from = "circumference")
```

Applying pivot_wider

```
## # A tibble: 5 x 8
##   Tree  `118` `484` `664` `1004` `1231` `1372` `1582`
##   <ord> <dbl> <dbl> <dbl>  <dbl>  <dbl>  <dbl>  <dbl>
## 1 1        30    58    87    115    120    142    145
## 2 2        33    69   111    156    172    203    203
## 3 3        30    51    75    108    115    139    140
## 4 4        32    62   112    167    179    209    214
## 5 5        30    49    81    125    142    174    177
```

```
Orange_3 <- Orange_2 %>%
  pivot_wider(names_from = "age", values_from = "circumference") %>%
  view()
```

Create Orange_2 into a new object, then apply pivot_longer to the new object.

pivot_longer

?pivot_longer (learn about pivot_longer)

```
Orange_3 %>%
  pivot_longer(cols = 2:8, names_to = "age", values_to = "circumference")
```

Applying the function pivot_longer to the wide dataset "Orange_3"

```
## # A tibble: 35 x 3
##    Tree  age   circumference
##    <ord> <chr>         <dbl>
##  1 1     118              30
##  2 1     484              58
##  3 1     664              87
##  4 1     1004            115
##  5 1     1231            120
##  6 1     1372            142
##  7 1     1582            145
##  8 2     118              33
```

```
##  9 2     484              69
## 10 2     664             111
## # ... with 25 more rows
## # i Use `print(n = ...)` to see more rows
```

```
Orange_4 <- Orange_3 %>%
  pivot_longer(cols = 2:8, names_to = "age", values_to = "circumference")
```

Create the new longer table into a new dataset

Conclusion : Orange, the original dataset (Orange) was a long dataset. Pivot_wider was used to make it wide (Orange_2, Orange_3 as new object). Then, the pivot_longer function was used to make Orange_3 longer.

Summary : Pivot_wider and pivot_longer are a reverse function of each other. As the name implies "pivot_wider" makes your long dataset wide while "pivot_longer" makes a wide dataset longer.