

Getting and Cleaning Data

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The image displays two screenshots of the RStudio environment, illustrating the workflow of a data science course.

Top Screenshot:

- Script Editor:** Contains a single line of code: `1`.
- Console:** Displays a message: "We'll look at grouped data in the next lesson, but the idea is that `summarize()` can give you the requested value FOR EACH group in your dataset."
- Environment:** Shows the Global Environment with variables: `cran` (225468 obs. of 11 variables), `cran2` (225468 obs. of 8 variables), `cran3` (225468 obs. of 3 variables), and `galton` (928 obs. of 2 variables).
- Help:** Displays the "Relational Operators" page, including a description of binary operators and usage examples.

Bottom Screenshot:

- Script Editor:** Contains a multi-line script using `dplyr` functions: `arrange()`, `select()`, `mutate()`, `filter()`, and `summarize()`. The script is designed to process data from the `cran` dataset.
- Console:** Displays a message: "In this lesson, you learned about grouping and chaining using dplyr. You combined some of the things you learned in the previous lesson with these more advanced ideas to produce concise, readable, and highly effective code. Welcome to the wonderful world of dplyr!"
- Environment:** Shows the Global Environment with variables: `cran` (225468 obs. of 11 variables), `galton` (928 obs. of 2 variables), `mydf` (225468 obs. of 11 variables), `pack_sum` (6023 obs. of 5 variables), `result1` (46 obs. of 5 variables), `result2` (46 obs. of 5 variables), `result3` (46 obs. of 5 variables), and `top_count...` (46 obs. of 5 variables).
- Help:** Displays the "Locales" page, noting that for local data frames, the ordering is done in C++ code which does not have access to the local specific ordering usually done in R.

RStudio

File Edit Code View Plots Session Build Debug Tools Help

Go to file/function Addins

1.R script2.R script3.R script4.R script5.R script6.R script7.R passed script8.R script9.R

```
1 # Append two more function calls to accomplish the following:
2 #
3 # 1. use group_by() (from dplyr) to group the data by part and
4 # sex, in that order.
5 #
6 # 2. Use mutate to add two new columns, whose values will be
7 # automatically computed group-by-group:
8 #
9 # * total = sum(count)
10 # * prop = count / total
11 #
12 sat %>%
13   select(-contains("total")) %>%
14   gather(part_sex, count, -score_range) %>%
15   separate(part_sex, c("part", "sex")) %>%
16   group_by(part, sex) %>%
17   mutate(total = sum(count),
18          prop = count / total
19         ) %>% print
20
```

20:1 (Top Level) R Script

Console

```
...
|=====| 100%

| would you like to receive credit for completing this course on Coursera.org?
1: No
2: Yes
Selection: |
```

Environment History

Global Environment

- failed 6 obs. of 4 variables
- galton 928 obs. of 2 variables
- gradebook 10 obs. of 4 variables
- mydf 225468 obs. of 11 variables
- pack_sum 6023 obs. of 5 variables
- passed 4 obs. of 4 variables
- res 20 obs. of 3 variables
- result1 46 obs. of 5 variables

Files Plots Packages Help Viewer

R: Spread a key-value pair across multiple columns. Find in Topic

spread (tidyr) R Documentation

Spread a key-value pair across multiple columns.

Description

Spread a key-value pair across multiple columns.

Usage

```
spread(data, key, value, fill = NA, convert = sep = NULL)
```

Arguments

RStudio

File Edit Code View Plots Session Build Debug Tools Help

Go to file/function Addins

script8.R script9.R this_moment this_moment with_tz(arrive, "Asia/Hong_Kong") with_tz(arrive, "Asia/Hong_Kong")

```
structure(1478960666.06322,
  class = c("POSIXct",
    "POSIXt"), tzone =
    "Asia/Hong_Kong")
```

Console

```
| savings time, the length of any given minute, day, month, week, or year is relative to when it occurs. In
| contrast, the length of a second is always the same, regardless of when it occurs.
...
|=====| 97%

| To address these complexities, the authors of lubridate introduce four classes of time related objects:
| instants, intervals, durations, and periods. These topics are beyond the scope of this lesson, but you can
| find a complete discussion in the 2011 Journal of Statistical Software paper titled 'Dates and Times Made
| Easy with lubridate'.
...
|=====| 98%

| This concludes our introduction to working with dates and times in lubridate. I created a little timer that
| started running in the background when you began this lesson. Type stopwatch() to see how long you've been
| working!
> stopwatch()
[1] "33M 49.01376700401315"
| Excellent job!
|=====| 100%

| would you like to receive credit for completing this course on Coursera.org?
1: No
2: Yes
Selection: |
```

Environment History

Global Environment

Values

arrive	2016-11-12 22:24:26
depart	2016-11-11 17:34:26
dt1	"2014-08-23 17:23:02"
dt2	chr [1:3] "2014-05-14" "2014-0..."
how_long	Formal class Interval
last_time	
my_date	1989-05-17

Files Plots Packages Help Viewer

R: Utilities for creation and manipulation of 'Interval' objects. Find in Topic

interval (lubridate) R Documentation

Utilities for creation and manipulation of Interval objects.

Description

interval creates an **Interval-class** object with the specified start and end dates. If the start date occurs before the end date, the interval will be positive. Otherwise, it will be negative.

%--% Creates an interval that covers the range spanned by two dates. It replaces the original behavior of lubridate, which created an interval by default whenever two date-times were