

# Sheth L.U.J & Sir M.V. College Of Science

## Practical N0 5

### Aim :-Sorting data using arrange() in R.

The screenshot shows two instances of RStudio running on a Windows desktop. Both instances have identical environments and file structures.

**Session 1 (Top Window):**

```
R - R4.5.2 - ~/R
> table(industry_filter$industry)
< table of extent 0 >
> library(dplyr)
> delivery <- read_csv("topics.csv")
New names:
...1 <- ...
Rows: 18 Columns: 3
Column specification:
Delimiter: ","
chr (2): name, keywords
dbl (1): ...
#> #> 
#> Use 'spec()' to retrieve the full column specification for this data.
#> i Specify the column types or set `set_col_types = FALSE` to quiet this message.
#> delivery_sorted_name <- delivery |>
+   arrange(name)
#> head(delivery_sorted_name, 5)
#> # A tibble: 5 × 3
#>   ...1 name          keywords
#>   <dbl> <chr>        <chr>
#> 1 2 Additive Manufacturing  ['FDM', 'SLA', 'SLS', 'SLM', 'DMLS...', 17 Augmentation of Human Capabilities in Manufacturing ['cobot', 'exoskeleton']
#> 3 15 Change Management    ['adoption', 'kotter', 'ADKAR']
#> 4 10 Composites and New Materials ['composite', 'aramid', 'thermoset', 5 9 Decarbonization of Energy  ['hydro', 'geothermal', 'biomass', ...
#> delivery_sorted_keywords <- delivery |>
+   mutate(keyword_count = lengths(strsplit(keywords, ","))) |>
+   arrange(desc(keyword_count))
#> head(delivery_sorted_keywords, 5)
#> # A tibble: 5 × 4
#>   ...1 name          keywords      keyword_count
#>   <dbl> <chr>        <chr>           <int>
#> 1 1 Processes and Assembly  ['assembly', 'welding', 'bonding', 'machini... 18
#> 2 0 Robotics                 ['robot', 'robotic', 'automation', 'robot', ...
#> 3 10 Composites and New Materials ['composite', 'aramid', 'thermoset', 'bio-...
#> 4 2 Additive Manufacturing   ['FDM', 'SLA', 'SLS', 'SLM', 'DMLS', 'EBM', ...
#> 5 6 Recycling / Reuse       ['recycling', 'reuse', 'remanufacturing', ...
#> delivery_multi_sort <- delivery |>
+   mutate(keyword_count = lengths(strsplit(keywords, ","))) |>
+   arrange(keyword_count)
#> head(delivery_multi_sort, 10)
#> # A tibble: 10 × 4
#>   ...1 name          keywords      keyword_count
#>   <dbl> <chr>        <chr>           <int>
#> 1 2 Additive Manufacturing  ['FDM', 'SLA', 'SLS... 12
#> 2 17 Augmentation of Human Capabilities in Manufacturing ['cobot', 'exoskel... 2
#> 3 15 Change Management    ['adoption', 'kotter', ... 3
#> 4 10 Composites and New Materials ['composite', 'aramid', 'thermoset', ... 13
#> 5 9 Decarbonization of Energy  ['hydro', 'geotherm... 6
#> 6 8 Decarbonization of Mobility ['electrification', ...
#> 7 12 Digital Engineering of Products and Processes ['CAD', 'CAE', 'sim... 7
#> 8 4 Eco-design                ['eco-design', 'LCA... 7
#> 9 7 Eco-responsible Processes ['eco-process', 'so... 3
#> 10 11 Industrial Digitalization ['IoT', 'IIoT', 'AI... 7
#> robot_related <- delivery |>
+   filter(grepl("robot", keywords, ignore.case = TRUE))
#> robot_related |>
+   select(name, keywords) |>
+   head(5)
```

**Session 2 (Bottom Window):**

```
R - R4.5.2 - ~/R
> delivery_sorted_keywords <- delivery |>
+   mutate(keyword_count = lengths(strsplit(keywords, ","))) |>
+   arrange(desc(keyword_count))
#> head(delivery_sorted_keywords, 5)
#> # A tibble: 5 × 4
#>   ...1 name          keywords      keyword_count
#>   <dbl> <chr>        <chr>           <int>
#> 1 1 Processes and Assembly  ['assembly', 'welding', 'bonding', 'machini... 18
#> 2 0 Robotics                 ['robot', 'robotic', 'automation', 'robot', ...
#> 3 10 Composites and New Materials ['composite', 'aramid', 'thermoset', 'bio-...
#> 4 2 Additive Manufacturing   ['FDM', 'SLA', 'SLS', 'SLM', 'DMLS', 'EBM', ...
#> 5 6 Recycling / Reuse       ['recycling', 'reuse', 'remanufacturing', ...
#> delivery_multi_sort <- delivery |>
+   mutate(keyword_count = lengths(strsplit(keywords, ","))) |>
+   arrange(keyword_count)
#> head(delivery_multi_sort, 10)
#> # A tibble: 10 × 4
#>   ...1 name          keywords      keyword_count
#>   <dbl> <chr>        <chr>           <int>
#> 1 2 Additive Manufacturing  ['FDM', 'SLA', 'SLS... 12
#> 2 17 Augmentation of Human Capabilities in Manufacturing ['cobot', 'exoskel... 2
#> 3 15 Change Management    ['adoption', 'kotter', ... 3
#> 4 10 Composites and New Materials ['composite', 'aramid', 'thermoset', ... 13
#> 5 9 Decarbonization of Energy  ['hydro', 'geotherm... 6
#> 6 8 Decarbonization of Mobility ['electrification', ...
#> 7 12 Digital Engineering of Products and Processes ['CAD', 'CAE', 'sim... 7
#> 8 4 Eco-design                ['eco-design', 'LCA... 7
#> 9 7 Eco-responsible Processes ['eco-process', 'so... 3
#> 10 11 Industrial Digitalization ['IoT', 'IIoT', 'AI... 7
#> robot_related <- delivery |>
+   filter(grepl("robot", keywords, ignore.case = TRUE))
#> robot_related |>
+   select(name, keywords) |>
+   head(5)
```

The desktop taskbar at the bottom shows various open applications including RStudio, Microsoft Word, and a browser.

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Subject :- Data Analysis with SAS / SPSS /R