

# MVLU COLLEGE

## R PRACTICAL 5

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

```

1 # Load the dplyr package
2 library(dplyr)
3
4 # --- ASSUMPTION: Data Loading ---
5 # we assume "fastest_Fifties" is loaded correctly.
6 # We can use read.csv to fetch the previous file's column names (like x4s, x6s).
7 fastest_Fifties <- read.csv("Fastest_Fifties - 2018.csv")
8
9
10 # Example 1: Sorting by a Single Variable (Ascending)
11 # Check the first 5 rows--the lowest BP values should be at the top.
12 # print(head(fifties_by_speed, 5))
13
14 # Example 2: Sorting by a Single Variable (Descending)
15 # Original Logic: sort by 'volume' (lowest to highest)
16 # Adapted for you: Sort by 'BF' (Balls Faced) to find the absolute fastest fifties.
17 # Sort by BF (balls faced) in ascending order (lowest to highest)
18 fifties_by_speed <- fastest_Fifties |>
19   arrange(BF)
20
21 cat("---- Top 5 Fastest Fifties (lowest BF) ----\n")
22 # Check the first 5 rows--the lowest BF values should be at the top.
23 print(head(fifties_by_speed, 5))
24
25 # Example 3: Sorting by Multiple Columns
26 # Original Logic: sort by 'high' (ascending), then by 'volume' (descending).
27 # Adapted for you: Sort First by 'BF' (Ascending, fastest scores First), and for ties, sort by 'Runs' (Descending, high
28 # sort by RUNS in descending order (highest to lowest)
29 fifties_by_score <- fastest_Fifties |>
30   arrange(desc(Runs))
31
32 cat("---- Top 5 Highest Individual Scores ----\n")
33 # Check the first 5 rows--the highest run values should be at the top.
34 print(head(fifties_by_score, 5))
35
36 # Example 4: Combined Filter and sort (Chaining operations)
37 # Original Filter: Filter(high > 80, volume > 100)
38 # Adapted Filter: Filter for a high score (> 80 runs) AND high power hitting (> 5 sixes).
39 # Sorting: Then sort those rows by 'x6s' (Sixes) in descending order to see the most powerful knocks first.
40
41 # Filter for high runs and high 6s, then arrange by 6s
42 power_knocks_sorted <- fastest_Fifties |>
43   filter(Runs > 80, x6s > 5) |>
44   arrange(desc(x6s))
45
46 cat("---- Top Power Knocks (Runs > 80 & 6s > 5, Sorted by 6s) ----\n")
47 # Check the columns for confirmation
48 print(power_knocks_sorted |> head(5))
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```

The screenshot shows the RStudio interface with the code for sorting data using the `arrange()` function. The code includes examples for sorting by single variables (both ascending and descending), multiple columns, and combined filtering and sorting. The RStudio environment pane shows various data frames and files, and the file explorer pane shows the project structure and files.

**Output:-**

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## R PRACTICAL 5

The screenshot shows the RStudio interface with the following details:

- Console:** Displays R code for analyzing cricket data. The code includes sorting by runs, speed, and power, along with filtering for specific players and teams.
- Environment:** Shows the global environment with various objects and their sizes.
- File Browser:** Shows a list of files in the current directory, including CSV files like "fifities\_by\_score.csv" and "power\_knocks\_sorted.csv".
- Taskbar:** Shows the Windows taskbar with various application icons.
- System Tray:** Shows system information like battery level, network connection, and date/time (24-11-2024).

```

R - R4.52 ->
POS Player Runs RR X6s X0s Against Venue Match.Date
1 73 Rishabh Pant 128 36 15 7 SRH Arun Jaitley Stadium 10 May 2018
2 57 Andre Russell 88 26 1 11 CSK chidambaram 10 April 2018
3 29 Shane Watson 106 28 9 6 RR Maharashtra Cricket Association's International Stadium 20 April 2018
4 93 Chris Gayle 104 39 1 11 IS Bindra Stadium 19 April 2018
5 4 Andre Russell 104 39 1 11 SRH Maharashtra Cricket Association's International Stadium 13 May 2018
> # 1. Primary sort: RR (Ascending, Lowest Balls Faced First)
> # 2. Secondary sort (tie breaker): Runs (Descending, Highest score First)
> fifities_melt$RR <- fasttest_fifties$RR
> cat("---- Top 3 Sorted by speed (RR) then score (Runs) ----\n")
--- Top 5 Sorted by speed (RR) then score (Runs) ---
# The results show lower RR first, but if RR is equal, the higher run score comes first.
> print(head(fifities_melt[order(-RR)], 5))
POS Player Runs RR X6s X0s Against Venue Match.Date
1 1 KL Rahul 51 14 6 4 DC IS Bindra Stadium 04 April 2018
2 2 Ishant Sharma 62 17 5 6 KKR Eden Gardens 09 May 2018
3 3 Sunil Narine 52 17 5 6 RR Eden Gardens 08 April 2018
4 4 Jos Buttler 67 18 4 7 DC Arun Jaitley Stadium 02 May 2018
5 5 Sam Billings 56 21 4 7 KKR chidambaram 10 April 2018
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3 3 Sunil Narine 52 17 5 6 RR Eden Gardens 08 April 2018
4 4 Jos Buttler 67 18 4 7 DC Arun Jaitley Stadium 02 May 2018
5 5 Sam Billings 56 21 4 7 KKR chidambaram 10 April 2018
> # Sort by speed, then high RR, then arrange by 6s
> power_knocks$RR <- fasttest_fifties$RR
> power_knocks$X6s <- fifities_melt$X6s
> power_knocks$X0s <- fifities_melt$X0s
> cat("---- Top Power Knocks (Runs > 80 & 6s > 5, Sorted by 6s) ----\n")
--- Top Power Knocks (Runs > 80 & 6s > 5, Sorted by 6s) ---
> # Check the columns for confirmation
> print(power_knocks[order(-X6s), 1:5])
POS Player Runs RR X6s X0s Against Venue Match.Date
1 21 Andre Russell 88 26 1 11 CSK chidambaram 10 April 2018
2 93 Chris Gayle 104 39 1 11 SRH IS Bindra Stadium 19 April 2018
3 57 Shane Watson 106 28 9 6 RR Arun Jaitley Stadium 02 May 2018
4 59 Sanju Samson 92 34 2 10 RCB M. Chinnaswamy Stadium 15 April 2018
5 57 Shane Watson 117 33 11 8 SRH wankhede Stadium 27 May 2018
> 
> 
```