

SHETH L.U.J AND SIR MV COLLRGR
PRACTICAL NO:- 05

AIM :- Sorting data using arrange() in R.

CODE :-

```
library(dplyr)
library(readr)

# Load dataset
data <- read_csv("C:/Users/Rani/Downloads/student-mat (1).csv")

# -----
# Example 1 : Arrange by a single variable (Ascending)
# Sort by Final Grade (G3) lowest → highest
# -----

data_sorted_g3 <- data |>
  arrange(G3)

head(data_sorted_g3, 5)

# -----
# Example 2 : Arrange by a single variable (Descending)
# Sort by Absences highest → lowest
# -----

data_sorted_abs_desc <- data |>
  arrange(desc(absences))

head(data_sorted_abs_desc, 5)

# -----
# Example 3 : Sort by MULTIPLE columns
# First by sex (F then M), then G3 highest first
# -----

data_multi_sort <- data |>
  arrange(sex, desc(G3))

head(data_multi_sort, 10)
```

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```
# -----  
# Example 4 : FILTER + ARRANGE  
# Filter studytime > 2 and then arrange by absences ascending  
# -----
```

```
high_study_sorted <- data |>  
  filter(studytime > 2) |>  
  arrange(absences)
```

```
head(high_study_sorted |> select(age, sex, studytime, absences, G3), 10)
```

OUTPUT:-

The screenshot shows the RStudio interface with the following content:

Console:

```
>  
Not all of the characters in C:/Users/Rani/OneDrive/Desktop/Rani_practical5.R could be encoded using ISO8859-1. To save using a different encoding, choose "File | Save with Encoding..." from the main menu.  
> source("C:/Users/Rani/OneDrive/Desktop/Rani_practical5.R")  
Rows: 395 Columns: 33  
Column specification  
Delimiter: ","  
chr (17): school, sex, address, famsize, Pstatus, Mjob, Fjob, reason, guardian, schoolsup, famsup, paid, activities...  
dbl (16): age, Medu, Fedu, traveltime, studytime, failures, famrel, freetime, goout, dalc, walc, health, absences, ...  
  
i Use 'spec()' to retrieve the full column specification for this data.  
i Specify the column types or set 'show_col_types = FALSE' to quiet this message.  
> data_sorted_abs_desc <- data |>  
+   arrange(desc(absences))  
> head(data_sorted_abs_desc, 5)  
# A tibble: 5 x 33  
  school sex age address famsize Pstatus Medu Fedu Mjob Fjob reason guardian traveltime studytime failures  
  <chr> <chr> <dbl> <chr> <chr> <chr> <dbl> <dbl> <chr> <chr> <chr> <dbl> <dbl> <dbl>  
1 GP F 18 R LE3 T 3 2 other services home mother 2 2 0  
2 GP F 17 U LE3 T 3 3 other other reput~ mother 1 2 0  
3 GP F 16 U GT3 T 3 3 other services home mother 1 2 0  
4 GP F 19 R GT3 T 2 3 other other reput~ other 1 3 1  
5 GP M 19 U GT3 T 4 4 teacher services reput~ other 2 1 1  
  
# i 18 more variables: schoolsup <chr>, famsup <chr>, paid <chr>, activities <chr>, nursery <chr>, higher <chr>,  
# internet <chr>, romantic <chr>, famrel <dbl>, freetime <dbl>, goout <dbl>, dalc <dbl>, walc <dbl>, health <dbl>,  
# absences <dbl>, G1 <dbl>, G2 <dbl>, G3 <dbl>  
> data_multi_sort <- data |>  
+   arrange(sex, desc(G3))  
> head(data_multi_sort, 10)  
# A tibble: 10 x 33  
  school sex age address famsize Pstatus Medu Fedu Mjob Fjob reason guardian traveltime studytime failures  
  <chr> <chr> <dbl> <chr> <chr> <chr> <dbl> <dbl> <chr> <chr> <chr> <dbl> <dbl> <dbl>  
1 GP F 18 U GT3 T 2 2 at_home at_ho~ other mother 1 3 0  
2 MS F 18 R LE3 T 4 4 other other reput~ mother 2 3 0  
3 GP F 15 U GT3 T 4 3 services other reput~ mother 1 1 0  
4 GP F 17 U GT3 T 4 4 services teach~ home mother 2 1 1  
5 GP F 18 U GT3 T 4 3 services other home father 1 2 0  
6 GP F 17 R LE3 T 3 1 services other reput~ mother 2 4 0  
7 GP F 17 U GT3 T 3 2 health health reput~ father 1 4 0  
8 GP F 17 U GT3 T 2 4 services servi~ reput~ father 1 2 0  
9 GP F 16 U GT3 T 2 3 services teach~ other mother 1 2 0
```

Environment:

Object	Class	Attributes
data	data.frame	395 obs. of 33 variables
data_multi_sort	data.frame	395 obs. of 33 variables
data_sorted_abs_desc	data.frame	395 obs. of 33 variables
data_sorted_g3	data.frame	395 obs. of 33 variables
high_study_sorted	data.frame	92 obs. of 33 variables

Files:

Name	Size	Modified
Rhistory	215 B	Nov 24, 2025, 11:22 PM
Custom Office Templates		
desktop.ini	552 B	Nov 25, 2025, 10:23 PM
field project.docx	3.2 MB	Oct 18, 2025, 12:48 AM
iris.csv	3.8 KB	Nov 24, 2025, 10:50 PM
java		
NetBeansProjects		
New folder		
R		
WindowsPowerShell		

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```
R - R4.1.2 - ~/R
# internet <chr>, romantic <chr>, famrel <dbl>, freetime <dbl>, goout <dbl>, dalc <dbl>, walc <dbl>, health <dbl>,
# absences <dbl>, G1 <dbl>, G2 <dbl>, G3 <dbl>
> data_multi_sort <- data |>
+ arrange(sex, desc(G3))
> head(data_multi_sort, 10)
# A tibble: 10 x 33
  school sex age address famsize Pstatus Medu Fedu Mjob Fjob reason guardian traveltime studytime failures
  <chr> <chr> <dbl> <chr> <chr> <chr> <dbl> <dbl> <chr> <chr> <chr> <chr> <dbl> <dbl> <dbl>
1 GP F 18 U GT3 T 2 2 at_home at_ho- other mother 1 3 0
2 MS F 18 R LE3 T 4 4 other other reput- mother 2 3 0
3 GP F 15 U GT3 T 4 3 services other reput- mother 1 1 0
4 GP F 17 U GT3 T 4 4 services teach- home mother 2 1 1
5 GP F 18 U GT3 T 4 3 services other home father 1 2 0
6 GP F 17 R LE3 T 3 1 services other reput- mother 2 4 0
7 GP F 17 U GT3 T 3 2 health health reput- father 1 4 0
8 GP F 17 U GT3 T 2 4 services servi- reput- father 1 2 0
9 GP F 16 U GT3 T 2 3 services teach- other mother 1 2 0
10 GP F 18 U LE3 T 3 3 services servi- home mother 1 4 0

# 18 more variables: schoolsup <chr>, famsup <chr>, paid <chr>, activities <chr>, nursery <chr>, higher <chr>,
# internet <chr>, romantic <chr>, famrel <dbl>, freetime <dbl>, goout <dbl>, dalc <dbl>, walc <dbl>, health <dbl>,
# absences <dbl>, G1 <dbl>, G2 <dbl>, G3 <dbl>
> high_study_sorted <- data |>
+ filter(studytime > 2) |>
+ arrange(absences)
> head(high_study_sorted |> select(age, sex, studytime, absences, G3), 10)
# A tibble: 10 x 5
  age sex studytime absences G3
  <dbl> <chr> <dbl> <dbl> <dbl>
1 15 M 3 0 16
2 16 M 4 0 15
3 15 M 4 0 10
4 16 F 4 0 11
5 16 F 3 0 8
6 16 F 3 0 8
7 16 M 3 0 17
8 16 F 3 0 10
9 15 F 3 0 0
10 15 F 3 0 0
```

The screenshot shows the RStudio interface with the following content:

```
R - R4.1.2 - ~/R
> high_study_sorted <- data |>
+ filter(studytime > 2) |>
+ arrange(absences)
> head(high_study_sorted |> select(age, sex, studytime, absences, G3), 10)
# A tibble: 10 x 5
  age sex studytime absences G3
  <dbl> <chr> <dbl> <dbl> <dbl>
1 15 M 3 0 16
2 16 M 4 0 15
3 15 M 4 0 10
4 16 F 4 0 11
5 16 F 3 0 8
6 16 F 3 0 8
7 16 M 3 0 17
8 16 F 3 0 10
9 15 F 3 0 0
10 15 F 3 0 0

> source("C:/Users/Rani/OneDrive/Desktop/Rani_practical5.R")
Rows: 395 Columns: 33
-- Column specification
Delimiter: ","
chr (17): school, sex, address, famsize, Pstatus, Mjob, Fjob, reason, guardian, schoolsup, famsup, paid, activities...
dbl (16): age, Medu, Fedu, traveltime, studytime, failures, famrel, freetime, goout, dalc, walc, health, absences, ...

i Use 'spec()' to retrieve the full column specification for this data.
i Specify the column types or set 'show_col_types = FALSE' to quiet this message.

> View(data)
```

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