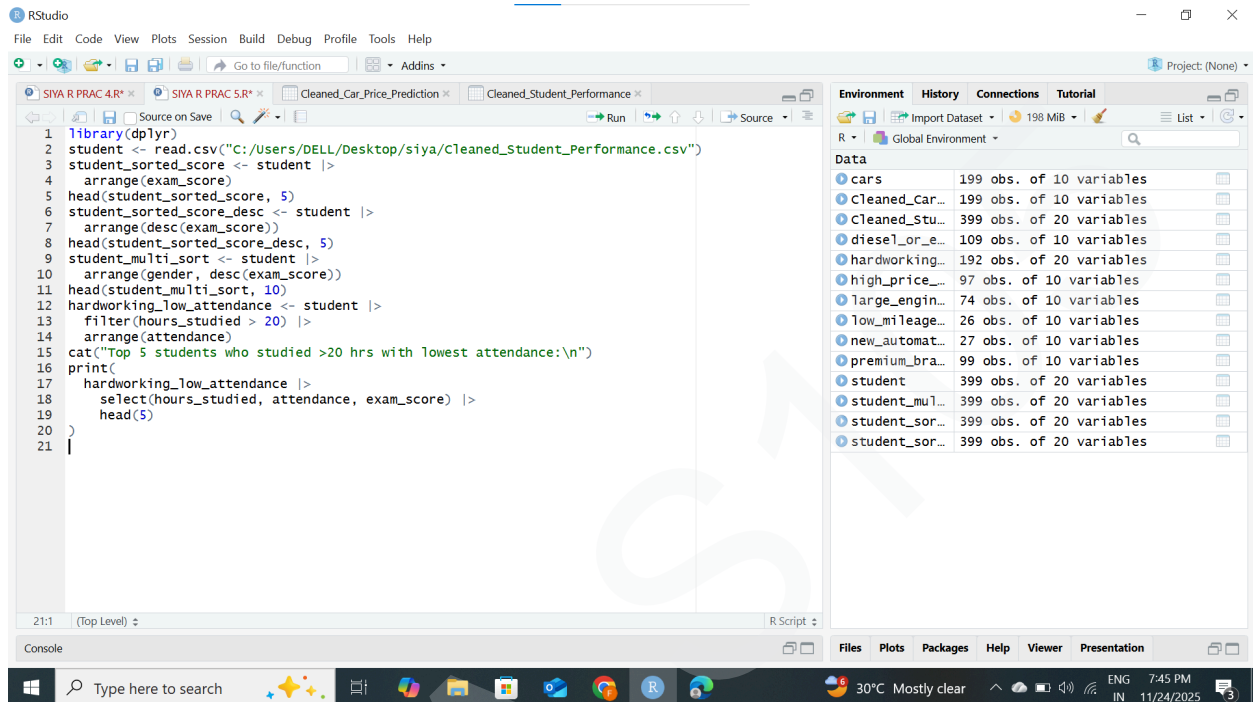


# MVLU COLLEGE

## PRACTICAL NO. 5

AIM: Sorting data using arrange() in R.

#Code:



The screenshot displays the RStudio interface. The script editor on the left contains the following R code:

```
1 library(dplyr)
2 student <- read.csv("C:/Users/DELL/Desktop/siya/Cleaned_Student_Performance.csv")
3 student_sorted_score <- student |>
4   arrange(exam_score)
5 head(student_sorted_score, 5)
6 student_sorted_score_desc <- student |>
7   arrange(desc(exam_score))
8 head(student_sorted_score_desc, 5)
9 student_multi_sort <- student |>
10  arrange(gender, desc(exam_score))
11 head(student_multi_sort, 10)
12 hardworking_low_attendance <- student |>
13   filter(hours_studied > 20) |>
14   arrange(attendance)
15 cat("Top 5 students who studied >20 hrs with lowest attendance:\n")
16 print(
17   hardworking_low_attendance |>
18     select(hours_studied, attendance, exam_score) |>
19     head(5)
20 )
21 |
```

The Environment pane on the right lists the following data objects:

Object	Observations	Variables
cars	199	10
Cleaned_Car...	199	10
Cleaned_Stu...	399	20
diesel_or_e...	109	10
hardworking...	192	20
high_price_...	97	10
large_engin...	74	10
low_mileage...	26	10
new_automat...	27	10
premium_bra...	99	10
student	399	20
student_mul...	399	20
student_sor...	399	20
student_sor...	399	20

# MVLU COLLEGE

## PRACTICAL NO. 5

### #Output:

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)

Source
Console Terminal Background Jobs
R - R 4.5.2 - ~/
> library(readr)
> Cleaned_Student_Performance <- read_csv("C:/Users/DELL/Desktop/siya/Cleaned_Student_Performance.csv")
Rows: 399 Columns: 20
Column specification
Delimiter: ","
chr (13): parental_involvement, access_to_resources, extracurricular_activities, motivation...
dbl (7): hours_studied, attendance, sleep_hours, previous_scores, tutoring_sessions, physic...

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(Cleaned_Student_Performance)
> student <- read_csv("C:/Users/DELL/Desktop/siya/Cleaned_Student_Performance.csv")
> student_sorted_score <- student |>
+ arrange(exam_score)

Error in arrange(student, exam_score) : could not find function "arrange"

> library(dplyr)

Attaching package: 'dplyr'

The following objects are masked from 'package:stats':
  filter, lag

The following objects are masked from 'package:base':
  intersect, setdiff, setequal, union

> student_sorted_score <- student |>
```

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)

Source
Console Terminal Background Jobs
R - R 4.5.2 - ~/
intersect, setdiff, setequal, union

> student_sorted_score <- student |>
+ arrange(exam_score)
> head(student_sorted_score, 5)
  hours_studied attendance parental_involvement access_to_resources extracurricular_activities
1             13          69                Medium                Low                    Yes
2             14          60                Medium                Low                    Yes
3              8          61                Medium                Medium                   Yes
4             10          64                Medium                High                    No
5              8          73                Medium                Medium                   No
  sleep_hours previous_scores motivation_level internet_access tutoring_sessions family_income
1           5           68                Low                Yes              0             High
2          10           65                Low                Yes              0             High
3           7           54                Medium              Yes              1             High
4           7           64                High                Yes              0             Medium
5           7           60                Medium              No              0             High
  teacher_quality school_type peer_influence physical_activity learning_disabilities
1           Medium      Public      Positive                1                Yes
2           Medium      Private      Positive                3                No
3           Medium      Public      Positive                3                No
4           Medium      Public      Positive                4                Yes
5           Medium      Private      Neutral                 3                No
  parental_education_level distance_from_home gender exam_score
1           High School      Moderate Female          59
2           College      Near Male          60
3           College      Near Male          60
4           High School      Moderate Female          60
5           High School      Near Female          60
> student_sorted_score_desc <- student |>
+ arrange(desc(exam_score))
> head(student_sorted_score_desc, 5)
```

# MVLU COLLEGE

## PRACTICAL NO. 5

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)

Source
Console Terminal Background Jobs
R 4.5.2 - /
> student_sorted_score_desc <- student |>
+   arrange(desc(exam_score))
> head(student_sorted_score_desc, 5)
  hours_studied attendance parental_involvement access_to_resources extracurricular_activities
1             18           89                High                Medium                    Yes
2             19           70                Medium                Low                     No
3             35           99                High                High                    Yes
4             43           86                High                Medium                    Yes
5             31          100                Medium                Medium                    No
  sleep_hours previous_scores motivation_level internet_access tutoring_sessions family_income
1             4             73                Medium            Yes                 3             High
2             7             54                High              Yes                 0             Medium
3             7             85                Low               Yes                 2             Medium
4             7             97                Medium            Yes                 2             Medium
5             7             59                Medium            Yes                 2             High
  teacher_quality school_type peer_influence physical_activity learning_disabilities
1             Medium    Private      Positive                2                 No
2             Medium    Public      Positive                2                 Yes
3             High     Private      Neutral                 2                 No
4             High     Public      Positive                1                 No
5             High     Public      Positive                5                 No
  parental_education_level distance_from_home gender exam_score
1             College      Near Female      100
2             High School    Moderate Male      89
3             Postgraduate   Near Female      79
4             High School    Near Female      78
5             Postgraduate   Moderate Male      76
> student_multi_sort <- student |>
+   arrange(gender, desc(exam_score))
> head(student_multi_sort, 10)
  hours_studied attendance parental_involvement access_to_resources extracurricular_activities
1             18           89                High                Medium                    Yes
```

# MVLU COLLEGE

## PRACTICAL NO. 5

```

RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)

Source
Console Terminal Background Jobs
R - R 4.5.2 - ~/
> student_multi_sort <- student |>
+   arrange(gender, desc(exam_score))
> head(student_multi_sort, 10)
  hours_studied attendance parental_involvement access_to_resources extracurricular_activities
1             18          89                High                Medium                    Yes
2             35          99                High                High                    Yes
3             43          86                High                Medium                    Yes
4             28          89                Medium                High                    Yes
5             26          96                Medium                Medium                    Yes
6             22          89                High                High                    Yes
7             27          97                Low                High                    Yes
8             27          98                Low                High                    Yes
9             29          92                Low                Medium                    No
10            21          91                High                Medium                    No
  sleep_hours previous_scores motivation_level internet_access tutoring_sessions family_income
1             4             73                Medium            Yes                3            High
2             7             85                Low              Yes                2            Medium
3             7             97                Medium            Yes                2            Medium
4             10            97                High              Yes                3            Medium
5             7             68                Medium            Yes                3            High
6             6             80                Medium            Yes                1            High
7             8             81                Medium            Yes                0            High
8             7             56                Low              Yes                1            High
9             4             91                Medium            Yes                2            Medium
10            6             100               Medium            Yes                0            High
  teacher_quality school_type peer_influence physical_activity learning_disabilities
1             Medium      Private      Positive                2                No
2             High       Private      Positive                2                No
3             High       Public       Positive                1                No
4             Low        Public       Negative               6                No
5             Medium     Private      Positive                3                No

```

```

RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)

Source
Console Terminal Background Jobs
R - R 4.5.2 - ~/
7
8             Medium      Private      Positive                3                No
9             Medium     Private      Positive                3                No
10            Medium     Public       Negative               1                No
11            Medium     Private      Neutral               2                No
12
13 parental_education_level distance_from_home gender exam_score
14 College Near Female 100
15 Postgraduate Near Female 79
16 High School Near Female 78
17 High School Near Female 75
18 College Near Female 74
19 High School Near Female 73
20 High School Near Female 73
21 College Near Female 73
22 Postgraduate Near Female 72
23 Postgraduate Near Female 72
> hardworking_low_attendance <- student |>
+   filter(hours_studied > 20) |>
+   arrange(attendance)
> cat("Top 5 students who studied >20 hrs with lowest attendance:\n")
Top 5 students who studied >20 hrs with lowest attendance:
> print(
+   hardworking_low_attendance |>
+   select(hours_studied, attendance, exam_score) |>
+   head(5)
+ )
  hours_studied attendance exam_score
1             21          60          64
2             23          60          66
3             24          60          63
4             26          61          64
5             29          61          67
>

```