

SHETH L.U.J. AND SIR M.V. COLLEGE

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

OUTPUT:-

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Source Terminal Background Jobs
R v4.5.2 - ~/
> install.packages("dplyr")
WARNING: Rtools is required to build R packages but is not currently installed. Please download and install the appropriate version of Rtools before proceeding:
https://cran.rstudio.com/bin/windows/Rtools/
Warning: package 'dplyr' is in use and will not be installed

> library(dplyr)
> delivery <- read_csv("Food_Delivery_Route_Efficiency_Dataset.csv")
Rows: 200 Columns: 10
Column specification
chr (5): traffic_level, delivery_mode, weather, restaurant_zone, customer_zone
dbl (4): order_id, distance_km, delivery_time_min, route_length_km
dtm (1): order_time

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.
> delivery_sorted_time <- delivery |>
+ arrange(delivery_time_min)
> head(delivery_sorted_time, 5)
# A tibble: 5 x 10
  order_id distance_km delivery_time_min traffic_level route_length_km delivery_mode weather
  <dbl> <dbl> <dbl> <chr> <dbl> <chr> <chr>
1 23 0.54 2.4 Medium 0.58 Scooter Rainy
2 25 0.53 2.9 Low 0.62 Bike Cloudy
3 88 0.61 3 Medium 0.74 Bike Clear
4 87 0.71 5.2 High 0.88 Scooter Rainy
5 135 0.99 5.4 Medium 1.33 Bicycle Clear

# I 3 more variables: order_time <dtm>, restaurant_zone <chr>, customer_zone <chr>
> delivery_sorted_distance_desc <- delivery |>
+ arrange(desc(distance_km))
> head(delivery_sorted_distance_desc, 5)
# A tibble: 5 x 10
  order_id distance_km delivery_time_min traffic_level route_length_km delivery_mode weather
  <dbl> <dbl> <dbl> <chr> <dbl> <chr> <chr>
1 108 12 73.6 High 16.5 Bicycle Windy
2 34 12.0 58.2 Medium 13.3 Bicycle Cloudy
3 81 11.8 82.4 High 12.6 Car Cloudy
4 190 11.7 90.6 Medium 17.3 Car Cloudy
5 129 11.7 70.6 Low 11.8 Scooter Clear

# I 3 more variables: order_time <dtm>, restaurant_zone <chr>, customer_zone <chr>
> delivery_multi_sort <- delivery |>
+ arrange(traffic_level, desc(delivery_time_min))
> head(delivery_multi_sort, 10)
# A tibble: 10 x 10
  order_id distance_km delivery_time_min traffic_level route_length_km delivery_mode weather
  <dbl> <dbl> <dbl> <chr> <dbl> <chr> <chr>
1 44 10.8 87.3 High 13.5 Car Windy
2 123 10.6 85.7 High 13.5 Scooter Rainy
3 81 11.8 82.4 High 12.6 Car Cloudy
4 107 10.3 81.1 High 13.5 Bicycle Clear
5 62 10.5 80 High 12.6 Bicycle Windy
6 177 9.59 76.8 High 12.0 Scooter Windy
7 6 11.0 76.8 High 13.6 Car Windy
8 188 10.7 75.1 High 14.5 Scooter Rainy
9 179 11.7 74.9 High 15.2 Scooter Rainy
10 181 10.4 74.9 High 11.3 Bike Rainy

# I 3 more variables: order_time <dtm>, restaurant_zone <chr>, customer_zone <chr>
> car_delivery_sorted <- delivery |>
+ filter(delivery_mode == "car") |>
+ arrange(route_length_km)
> print(
+ car_delivery_sorted |>
+ dplyr::select(delivery_mode, route_length_km, delivery_time_min) |>
+ head(5)
+ )
# A tibble: 5 x 3
  delivery_mode route_length_km delivery_time_min
  <chr> <dbl> <dbl>
1 car 1.05 6.7
```

```
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> delivery_sorted_distance_desc <- delivery |>
+ arrange(desc(distance_km))
> head(delivery_sorted_distance_desc, 5)
# A tibble: 5 x 10
  order_id distance_km delivery_time_min traffic_level route_length_km delivery_mode weather
  <dbl> <dbl> <dbl> <chr> <dbl> <chr> <chr>
1 108 12 73.6 High 16.5 Bicycle Windy
2 34 12.0 58.2 Medium 13.3 Bicycle Cloudy
3 81 11.8 82.4 High 12.6 Car Cloudy
4 190 11.7 90.6 Medium 17.3 Car Cloudy
5 129 11.7 70.6 Low 11.8 Scooter Clear

# I 3 more variables: order_time <dtm>, restaurant_zone <chr>, customer_zone <chr>
> delivery_multi_sort <- delivery |>
+ arrange(traffic_level, desc(delivery_time_min))
> head(delivery_multi_sort, 10)
# A tibble: 10 x 10
  order_id distance_km delivery_time_min traffic_level route_length_km delivery_mode weather
  <dbl> <dbl> <dbl> <chr> <dbl> <chr> <chr>
1 44 10.8 87.3 High 13.5 Car Windy
2 123 10.6 85.7 High 13.5 Scooter Rainy
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# I 3 more variables: order_time <dtm>, restaurant_zone <chr>, customer_zone <chr>
> car_delivery_sorted <- delivery |>
+ filter(delivery_mode == "car") |>
+ arrange(route_length_km)
> print(
+ car_delivery_sorted |>
+ dplyr::select(delivery_mode, route_length_km, delivery_time_min) |>
+ head(5)
+ )
# A tibble: 5 x 3
  delivery_mode route_length_km delivery_time_min
  <chr> <dbl> <dbl>
1 car 1.05 6.7
```

NAME:- CHETAN MANDAVKAR

ROLL NO. S093

SUBJECT:- Data Analysis with SAS / SPSS / R

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The screenshot displays the RStudio interface with the following components:

- Console:** Shows R code for data manipulation. The code includes creating a data frame, sorting it by delivery time, and filtering for 'Car' delivery mode. The output shows a tibble with 5 rows and 3 columns: delivery_mode, route_length_km, and delivery_time_min.
- Environment:** Lists loaded data objects such as car_delivery_sorted, delivery, delivery_multi_sort, delivery_sorted_dist, delivery_sorted_time, energy, Food_Delivery_Route, and high_cost.
- Files:** A file explorer showing the project directory with various files like desktop.ini, dumps, energy_consumption.csv, and several PDF and DOCX files.
- Taskbar:** Shows the Windows taskbar with the date 24-11-2025 and time 19:28.

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