

PRACTICAL NO 5

AIM :Sorting data using arrange() in R.

Output:

The screenshot shows the RStudio interface with the following details:

- Console:** Displays R code for loading libraries (dplyr, readr), reading a CSV file (fraud_data), and printing the head of the dataset. It also includes a section for arranging the data by amount.
- Environment:** Shows the global environment with various objects like high_r, Housing, low_co, my_data, pref_a, Shark, and special.
- Files:** Shows a folder structure with PDF files such as 1-Limitless-Paper-Grade-7.pdf, 1-mATHS.pdf, 1-Motion in - 390--OK-Ok.pmd, 1-Phy-DPP-1 - Motion in a straight.lrd, 1-Teachers-1 (1).pmd, 1-Teachers-1 (2).pmd, 1-Teachers-1.pmd, 1-XI - All Branch.pmd, 2-mATHS.pdf, 2-Phy-DPP-2 - Motion in a straight.lrd, 2-XII - All Branch (1).pmd, 2-XII - All Branch.pmd, 2-Kingdom Plantae.pmd, 3-CHAM-1.pdf, 3-PCM-1.pdf, and 3-PCM-1.pmd.
- Plots:** Shows a small plot area.
- Packages:** Shows available packages.
- Help:** Shows help documentation.
- View:** Shows the current view settings.
- Toolbar:** Includes standard RStudio icons for file operations.
- Bottom Bar:** Shows system icons for weather (27°C), search, taskbar, and system status (ENG IN, 20:48, 25-11-2025).

SHETH L.U.J. AND SIR M.V. COLLEGE OF ARTS SCIENCE AND COMMERCE

Subject : Data Analysis with SAS / SPSS /R

RStudio

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Console Terminal Background Jobs
R 4.5.2 · C:/Users/PRIYANKA/Downloads/·
5 4538 339 1 ATM Clothing TR 10 0.215 0.00598 0
>
> fraud_sorted_amount_desc <- fraud_data |>
+ arrange(desc(amount))
> cat("\n--- 2. Top 5 Highest Transaction Amounts ---\n")
--- 2. Top 5 Highest Transaction Amounts ---
> print(head(fraud_sorted_amount_desc, 5))
# A tibble: 5 × 10
  transaction_id user_id amount transaction_type merchant_category country hour device_risk_score ip_risk_score is_fraud
    <dbl>     <dbl>   <dbl>        <chr>      <chr>       <dbl>      <dbl>      <dbl>      <dbl>
1      9747 423 11628. POS Food          TR         23      0.951      0.942      1
2      9956 589 11085. ATM Food          DE          7      0.868      0.804      1
3      9657 590 10430. ATM Travel        DE          8      0.976      0.727      1
4      9593 201 9648.  POS Travel        NG         23      0.733      0.778      1
5      9538 144 8894. POS Grocery       FR          7      0.868      0.932      1
>
> fraud_sorted_category_amount <- fraud_data |>
+ arrange(merchant_category, desc(amount))
> cat("\n--- 3. Top 10 Transactions: Sorted by Category, then by highest Amount ---\n")
--- 3. Top 10 Transactions: Sorted by Category, then by highest Amount ---
> print(head(fraud_sorted_category_amount, 10))
# A tibble: 10 × 10
  transaction_id user_id amount transaction_type merchant_category country hour device_risk_score ip_risk_score is_fraud
    <dbl>     <dbl>   <dbl>        <chr>      <chr>       <dbl>      <dbl>      <dbl>      <dbl>
1      9518 810 2504. POS Clothing      TR         12      0.930      0.934      1
2      9997 574 6428. Online Clothing     NG         15      0.760      0.973      1
3      9577 797 4765. ATM  Clothing     US         21      0.769      0.752      1
4      9730 926 4695. ATM  Clothing     TR         10      0.744      0.735      1
5      9613 874 4340. POS Clothing     DE         4      0.846      0.803      1
6      9890 109 3981. QR   Clothing     NG         16      0.750      0.904      1
7      9753 188 3578. POS Clothing     UK         3      0.858      0.901      1
8      9878 567 3541. Online Clothing    TR         17      0.724      0.787      1
9      9860 55 3465. ATM  Clothing     NG         4      0.793      0.857      1
10     9566 461 3445. ATM  Clothing     FR         4      0.782      0.928      1
>
> high_risk_sorted_country <- fraud_data |>
+ filter(device_risk_score > 0.95) |>
+ arrange(country)
> cat("\n--- 4. Transactions with Device Risk > 0.95, sorted by Country ---\n")
--- 4. Transactions with Device Risk > 0.95, sorted by Country ---

```

RStudio

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Console Terminal Background Jobs
R 4.5.2 · C:/Users/PRIYANKA/Downloads/·
4 9730 926 4695. ATM Clothing      TR         10      0.744      0.735      1
5 9613 874 4340. POS Clothing     DE         4      0.846      0.803      1
6 9890 109 3981. QR   Clothing     NG         16      0.750      0.904      1
7 9753 188 3578. POS Clothing     UK         3      0.858      0.901      1
8 9878 567 3541. Online Clothing    TR         17      0.724      0.787      1
9 9860 55 3465. ATM  Clothing     NG         4      0.793      0.857      1
10     9566 461 3445. ATM  Clothing     FR         4      0.782      0.928      1
>
> high_risk_sorted_country <- fraud_data |>
+ filter(device_risk_score > 0.95) |>
+ arrange(country)
> cat("\n--- 4. Transactions with Device Risk > 0.95, sorted by Country ---\n")
--- 4. Transactions with Device Risk > 0.95, sorted by Country ---
> print(head(high_risk_sorted_country))
# A tibble: 6 × 10
  transaction_id user_id amount transaction_type merchant_category country hour device_risk_score ip_risk_score is_fraud
    <dbl>     <dbl>   <dbl>        <chr>      <chr>       <dbl>      <dbl>      <dbl>      <dbl>
1      9888 278 1853. Online Clothing    DE         11      0.974      0.977      1
2      9322 2356. ATM  Grocery      DE         4      0.971      0.762      1
3      9800 595 1703. OR   Clothing     DE         12      0.899      0.972      1
4      9674 739 22.2 POS  Food          DE         6      0.987      0.971      1
5      9821 743 22.7 ATM  Travel        DE         6      0.983      0.946      1
6      9558 114 22.2 ATM  Travel        DE         6      0.957      0.887      1
>
> low_ip_risk_sorted <- fraud_data |>
+ arrange(ip_risk_score)
> cat("\n--- 5. Top 5 Lowest IP Risk Scores ---\n")
--- 5. Top 5 Lowest IP Risk Scores ---
> print(head(low_ip_risk_sorted, 5))
# A tibble: 5 × 10
  transaction_id user_id amount transaction_type merchant_category country hour device_risk_score ip_risk_score is_fraud
    <dbl>     <dbl>   <dbl>        <chr>      <chr>       <dbl>      <dbl>      <dbl>      <dbl>
1      952 312 104. ATM  Grocery      US          6      0.279      0.00000880      0
2      1709 827 103. OR   Clothing     DE         14      0.271      0.0000289      0
3      5133 970 156. Online Electronics  US          15      0.143      0.0000536      0
4      6429 926 53.0 ATM  Food          TR         15      0.0738      0.0000667      0
5      522 720 115. POS  Electronics  UK         22      0.238      0.0000834      0
>
```

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