

# MVLU COLLEGE

## PRACTICAL NO. 6

**AIM: Combining and appending datasets using merge() or bind\_rows() in R.**

The screenshot shows an RStudio interface with the following details:

- Code Editor:** Displays R code for merging datasets. The code reads two CSV files ("Cleaned\_BMW\_Sales\_Data.csv" and "Cleaned\_Car\_Price\_Prediction.csv") into data frames df1 and df2. It then creates a key vector from the "model", "year", "fuel\_type", and "transmission" columns. df2 is mutated across all keys. df2 is then merged with df1 using inner join. Finally, df2 is joined with df1 using left join, and the resulting data frame is saved as "merged\_full".

```
1 library(dplyr)
2 library(readr)
3 df1 <- read_csv("C:/users/itlab/onedrive/documents/S105/Cleaned_BMW_Sales_Data.csv")
4 df2 <- read_csv("C:/users/itlab/onedrive/documents/S105/Cleaned_Car_Price_Prediction.csv")
5 keys <- c("model", "year", "fuel_type", "transmission")
6 df2 %>% mutate(across(all_of(keys), as.character))
7 df2 <- df2 %>% mutate(across(all_of(keys), as.character))
8 merged_inner <- inner_join(df1, df2, by = keys)
9 merged_left <- left_join(df1, df2, by = keys)
10 merged_full <- full_join(df1, df2, by = keys)
11 appended <- bind_rows(df1, df2)
12 cat("Rows in df1:", nrow(df1), "\n")
13 cat("Rows in df2:", nrow(df2), "\n")
14 cat("Rows in merged_inner:", nrow(merged_inner), "\n")
15 cat("Rows in merged_left:", nrow(merged_left), "\n")
16 cat("Rows in merged_full:", nrow(merged_full), "\n")
17 cat("Rows in appended:", nrow(appended), "\n")
18 write_csv(merged_inner, "merged_inner.csv")
19 write_csv(merged_left, "merged_left.csv")
20 write_csv(merged_full, "merged_full.csv")
21 write_csv(appended, "appended_rows.csv")
22 cat("Rows in inner join:", nrow(merged_inner), "\n")
23 cat("Rows in left join:", nrow(merged_left), "\n")
24 cat("Rows in full join:", nrow(merged_full), "\n")
25 cat("Rows in appended:", nrow(appended), "\n")
26 |
```
- Environment View:** Shows the global environment with objects like appended, Cleaned\_BMW\_Sales..., Cleaned\_Car\_Price..., df1, df2, merged\_full, merged\_inner, and merged\_left.
- Console View:** Shows the command "R S..." and the system tray at the bottom.
- Tooltip:** A tooltip titled "Merging and appending d..." is visible in the center of the screen.

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## PRACTICAL NO. 6

RStudio

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Source

```
R > R.4.5.2 - ~\R
> library(dplyr)
> library(readr)
> df1 <- read_csv("C:/users/itlab/onedrive/documents/S105/Cleaned_BMW_Sales_Data.csv")
Rows: 99 Columns: 11
-- Column specification --
Delimiter: ","
chr (6): model, region, color, fuel_type, transmission, sales_classifi...
dbl (5): year, engine_size_l, mileage_km, price_usd, sales_volume

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.
> df2 <- read_csv("C:/users/itlab/onedrive/documents/S105/Cleaned_Car_Price_Prediction.csv")
Rows: 199 Columns: 10
-- Column specification --
Delimiter: ","
chr (5): brand, fuel_type, transmission, condition, model
dbl (5): car_id, year, engine_size, mileage, price

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.
> keys <- c("model", "year", "fuel_type", "transmission")
> df1 <- df1 %>% mutate(across(all_of(keys), as.character))
> df2 <- df2 %>% mutate(across(all_of(keys), as.character))
> merged_inner <- inner_join(df1, df2, by = keys)
> merged_left <- left_join(df1, df2, by = keys)
> merged_full <- full_join(df1, df2, by = keys)
> appended <- bind_rows(df1, df2)
> cat("Rows in df1:", nrow(df1), "\n")
Rows in df1: 99
> cat("Rows in df2:", nrow(df2), "\n")
Rows in df2: 199
> cat("Rows in merged_inner:", nrow(merged_inner), "\n")
Rows in merged_inner: 4
> cat("Rows in merged_left:", nrow(merged_left), "\n")
Rows in merged_left: 99
> cat("Rows in merged_full:", nrow(merged_full), "\n")
Rows in merged_full: 294
> cat("Rows in appended:", nrow(appended), "\n")
Rows in appended: 298
> write_csv(merged_inner, "/mnt/data/merged_inner.csv")

Error: Cannot open file for writing:
* "C:/mnt/data/merged_inner.csv"
```

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RStudio

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Source

```
R > R.4.5.2 - ~\R
> merged_inner <- full_join(df1, df2, by = keys)
> appended <- bind_rows(df1, df2)
> cat("Rows in df1:", nrow(df1), "\n")
Rows in df1: 99
> cat("Rows in df2:", nrow(df2), "\n")
Rows in df2: 199
> cat("Rows in merged_inner:", nrow(merged_inner), "\n")
Rows in merged_inner: 4
> cat("Rows in merged_left:", nrow(merged_left), "\n")
Rows in merged_left: 99
> cat("Rows in merged_full:", nrow(merged_full), "\n")
Rows in merged_full: 294
> cat("Rows in appended:", nrow(appended), "\n")
Rows in appended: 298
> write_csv(merged_inner, "/mnt/data/merged_inner.csv")

Error: cannot open file for writing:
* "C:/mnt/data/merged_inner.csv"

> write_csv(merged_inner, "merged_inner.csv")
> write_csv(merged_left, "merged_left.csv")
> write_csv(merged_full, "merged_full.csv")
> write_csv(appended, "appended_rows.csv")

> getwd()
[1] "C:/users/itlab/OneDrive/Documents"
> view(merged_full)
> view(merged_left)
> cat("Rows in inner join:", nrow(merged_inner), "\n")
Rows in inner join: 4
> write_csv(merged_inner, "merged_inner.csv")

> cat("Rows in left join:", nrow(merged_left), "\n")
Rows in left join: 99
> cat("Rows in full join:", nrow(merged_full), "\n")
Rows in full join: 294
> cat("Rows in appended:", nrow(appended), "\n")
Rows in appended: 298
> |
```

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