

SHETH L.U.J & SIR M.V COLLEGE OF SCIENCE

SUBJECT : Data Analysis with SAS / SPSS / R

AIM : Combining and appending datasets using merge() or bind_rows() in R.

OUTPUT

The first screenshot shows the RStudio interface with the following code in the console:

```
> midterm <- data.frame(
+   Student_ID = c(101, 102, 103),
+   Name = c("Aarya", "Bhavin", "Chirag"),
+   Midterm_Score = c(78, 85, 92)
+ )
> final <- data.frame(
+   Student_ID = c(101, 102, 103),
+   Name = c("Aarya", "Bhavin", "Chirag"),
+   Final_Score = c(81, 88, 95)
+ )
> new_students <- data.frame(
+   Student_ID = c(104, 105),
+   Name = c("Disha", "Eshan"),
+   Midterm_Score = c(74, 80)
+ )
> print("---- Midterm Exam Data ----")
[1] "---- Midterm Exam Data ----"
> print(midterm)
  Student_ID Name Midterm_Score
1         101  Aarya           78
2         102  Bhavin           85
3         103  Chirag           92
> print("---- Final Exam Data ----")
[1] "---- Final Exam Data ----"
> print(final)
  Student_ID Name Final_Score
1         101  Aarya          81
2         102  Bhavin          88
3         103  Chirag          95
> merged_data <- merge(midterm, final, by = c("Student_ID", "Name"))
> print("---- Merged Data (Columns Added) ----")
[1] "---- Merged Data (Columns Added) ----"
> print(merged_data)
  Student_ID Name Midterm_Score Final_Score
1         101  Aarya           78          81
2         102  Bhavin           85          88
3         103  Chirag           92          95
```

The second screenshot shows the RStudio interface with the following code in the console:

```
> print("---- Midterm Exam Data ----")
[1] "---- Midterm Exam Data ----"
> print(midterm)
  Student_ID Name Midterm_Score
1         101  Aarya           78
2         102  Bhavin           85
3         103  Chirag           92
> print("---- Final Exam Data ----")
[1] "---- Final Exam Data ----"
> print(final)
  Student_ID Name Final_Score
1         101  Aarya          81
2         102  Bhavin          88
3         103  Chirag          95
> merged_data <- merge(midterm, final, by = c("Student_ID", "Name"))
> print("---- Merged Data (Columns Added) ----")
[1] "---- Merged Data (Columns Added) ----"
> print(merged_data)
  Student_ID Name Midterm_Score Final_Score
1         101  Aarya           78          81
2         102  Bhavin           85          88
3         103  Chirag           92          95
> final_list <- bind_rows(midterm, new_students)
> print("---- Appended Data (Rows Added) ----")
[1] "---- Appended Data (Rows Added) ----"
> print(final_list)
  Student_ID Name Midterm_Score
1         101  Aarya           78
2         102  Bhavin           85
3         103  Chirag           92
4         104  Disha           74
5         105  Eshan           80
> View(final)
> View(final_list)
> View(merged_data)
> View(midterm)
> View(new_students)
```

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SUBJECT : Data Analysis with SAS / SPSS / R

This screenshot shows the RStudio interface with a project named 'S108-rprogram prac6.R'. The Environment pane on the right lists several data objects: 'final' (3 obs. of 3 variables), 'final_list' (5 obs. of 3 variables), 'merged_da...' (3 obs. of 4 variables), 'midterm' (3 obs. of 3 variables), and 'new_stude...' (2 obs. of 3 variables). The Files pane shows the project structure. The Console shows the following commands and output:

```
R - R4.5.1 ~\...> View(final)> View(final_list)> View(merged_data)> View(midterm)> View(new_students)
```

Student_ID	Name	Final_Score	
1	101	Aarya	81
2	102	Bhavin	88
3	103	Chirag	95

This screenshot shows the RStudio interface with the same project. The Environment pane lists the same data objects. The Console shows the following commands and output:

```
R - R4.5.1 ~\...> View(final)> View(final_list)> View(merged_data)> View(midterm)> View(new_students)
```

Student_ID	Name	Midterm_Score	
1	101	Aarya	78
2	102	Bhavin	85
3	103	Chirag	92
4	104	Disha	74
5	105	Eshan	80

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SUBJECT : Data Analysis with SAS / SPSS / R

The screenshot displays the RStudio environment. The top-left pane shows a data frame with the following data:

Student_ID	Name	Midterm_Score	Final_Score	
1	101	Aarya	78	81
2	102	Bhavin	85	88
3	103	Chirag	92	95

The bottom-left pane shows the R console with the following commands:

```
R - R4.5.1 ~ /...  
> View(Final)  
> View(Final_list)  
> View(merged_data)  
> View(midterm)  
> View(new_students)
```

The right-hand side of the interface shows the Environment pane with the following data objects:

- final: 3 obs. of 3 variables
- final_list: 5 obs. of 3 variables
- merged_da: 3 obs. of 4 variables
- midterm: 3 obs. of 3 variables
- new_stude: 2 obs. of 3 variables

A Snipping Tool window is open in the bottom-right corner, displaying the message: "Screenshot copied to clipboard. Automatically saved to screenshots folder. Mark-up and share."

This screenshot is identical to the one above, showing the RStudio environment with the same data frame, console commands, and environment pane. The Snipping Tool window is also present in the bottom-right corner.

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The screenshot displays the RStudio environment. The main editor window shows a data frame with the following data:

Student_ID	Name	Midterm_Score
1	Disha	74
2	Eshan	80

The Environment pane on the right lists the following objects:

- final: 3 obs. of 3 variables
- final_list: 5 obs. of 3 variables
- merged_da_: 3 obs. of 4 variables
- midterm: 3 obs. of 3 variables
- new_stude_: 2 obs. of 3 variables

The Console pane at the bottom shows the following commands and output:

```
R - R4.5.1 - ~/...  
> View(Final)  
> View(Final_list)  
> View(merged_data)  
> View(midterm)  
> View(new_students)  
>
```

The Files pane on the right shows the file explorer with various files and folders, including .RData, .Rhistory, Custom Office Templates, Data_Science_jobs.csv, GIS DataBase, IISExpress, My Web Sites, NetBeansProjects, Power BI Desktop, Student-Mental-health.csv, Virtual Machines, and Visual Studio 2022.