

SHETH L.U.J AND M.V COLLEGE  
PRACTICAL NO .12  
SUBJECT - DATA ANALYSIS

AIM - 12. Combining datasets vertically (concatenation) using rbind() (R).  
Write code to Combining datasets vertically (concatenation) using rbind() in R studio.  
INPUT -data(iris)

```
flower_df <- read.csv("flower_dataset.csv")

print("--- Data Structure Before Transformation ---")
print(names(iris))
print(names(flower_df))

iris_clean <- iris[, c("Species", "Sepal.Length")]
names(iris_clean) <- c("Species", "Height")

flower_clean <- flower_df[, c("species", "height_cm")]
names(flower_clean) <- c("Species", "Height")

iris_clean$Height <- as.numeric(iris_clean$Height)
flower_clean$Height <- as.numeric(flower_clean$Height)

combined_data <- rbind(iris_clean, flower_clean)

print("--- Combined Data Summary ---")
print(paste("Iris rows:", nrow(iris_clean)))
print(paste("Flower rows:", nrow(flower_clean)))
print(paste("Total rows (Expected):", nrow(iris_clean) + nrow(flower_clean)))
print(paste("Total rows (Actual):", nrow(combined_data)))

print("--- Preview of Combined Data (Top and Bottom) ---")
print(head(combined_data))
print(tail(combined_data))
```

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```
1 data(iris)
2
3 flower_df <- read.csv("flower_dataset.csv")
4
5 print("---- Data Structure Before Transformation ----")
6 print(names(iris))
7 print(names(flower_df))
8
9 iris_clean <- iris[, c("Species", "sepal.Length")]
10 names(iris_clean) <- c("Species", "Height")
11
12 flower_clean <- flower_df[, c("species", "height_cm")]
13 names(flower_clean) <- c("Species", "Height")
14
15 iris_clean$Height <- as.numeric(iris_clean$Height)
16 flower_clean$Height <- as.numeric(flower_clean$Height)
17
18 combined_data <- rbind(iris_clean, flower_clean)
19
20 print("---- Combined Data Summary ----")
21 print(paste("Iris rows:", nrow(iris_clean)))
22 print(paste("Flower rows:", nrow(flower_clean)))
23 print(paste("Total rows (Expected):", nrow(iris_clean) + nrow(flower_clean)))
24 print(paste("Total rows (Actual):", nrow(combined_data)))
25
26 print("---- Preview of Combined Data (Top and Bottom) ----")
27 print(head(combined_data))
28 print(tail(combined_data))
29
```

23/78 (Top Level) ±

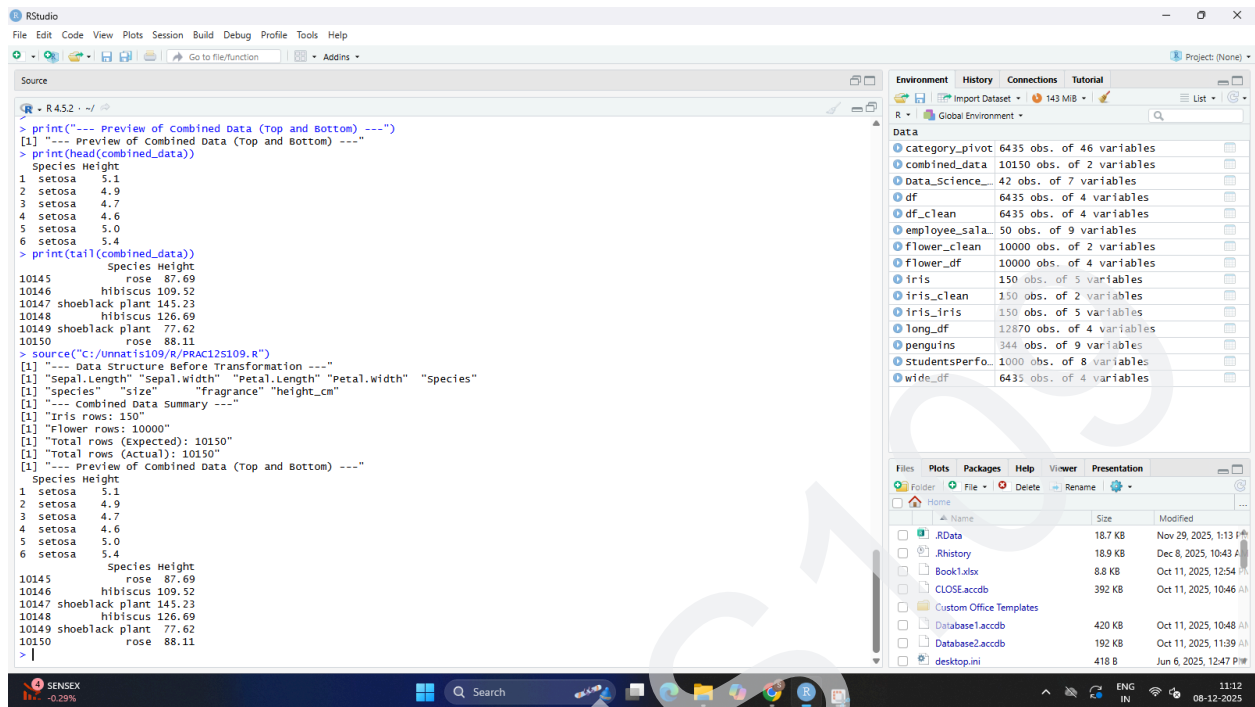
R 4.5.2 ~ / ~ misc 120.89  
10148 mroiscus 120.89  
10149 shoeblack plant 77.62  
10150 rose 88.11  
> |

OUTPUT -

```
> flower_df <- read.csv("flower_dataset.csv")
> print("---- Data Structure Before Transformation ----")
[1] "---- Data Structure Before Transformation ----"
> print(names(iris))
[1] "sepal.Length" "sepal.width" "petal.Length" "petal.width" "Species"
> print(names(flower_df))
[1] "species" "size" "fragrance" "height_cm"
> iris_clean <- iris[, c("Species", "sepal.Length")]
> names(iris_clean) <- c("Species", "Height")
> flower_clean <- flower_df[, c("species", "height_cm")]
> names(flower_clean) <- c("Species", "Height")
> iris_clean$Height <- as.numeric(iris_clean$Height)
> flower_clean$Height <- as.numeric(flower_clean$Height)
> combined_data <- rbind(iris_clean, flower_clean)
> print("---- Combined Data Summary ----")
[1] "---- Combined Data Summary ----"
> print(paste("Iris rows:", nrow(iris_clean)))
[1] "Iris rows: 150"
> print(paste("Flower rows:", nrow(flower_clean)))
[1] "Flower rows: 10000"
> print(paste("Total rows (Expected):", nrow(iris_clean) + nrow(flower_clean)))
[1] "Total rows (Expected): 10150"
> print(paste("Total rows (Actual):", nrow(combined_data)))
[1] "Total rows (Actual): 10150"
> print("---- Preview of Combined Data (Top and Bottom) ----")
[1] "---- Preview of Combined Data (Top and Bottom) ----"
> print(head(combined_data))
  Species Height
1 setosa  5.1
2 setosa  4.9
3 setosa  4.7
4 setosa  4.6
5 setosa  5.0
6 setosa  5.4
> print(tail(combined_data))
  Species Height
10148 mroiscus 120.89
10149 shoeblack plant 77.62
10150 rose 88.11
```

NAME - UNNATI RATHOD  
ROLL NO - S109

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The screenshot displays the RStudio interface. The Source pane on the left shows the following R code being executed:

```
R - R4.5.2 - ~/ -  
> print("--- Preview of Combined Data (Top and Bottom) ---")  
[1] "--- Preview of Combined Data (Top and Bottom) ---"  
> print(head(combined_data))  
Species Height  
1 setosa 5.1  
2 setosa 4.9  
3 setosa 4.7  
4 setosa 4.6  
5 setosa 5.0  
6 setosa 5.4  
> print(tail(combined_data))  
Species Height  
10145 rose 87.69  
10146 hibiscus 109.52  
10147 shoeblack plant 145.23  
10148 hibiscus 126.69  
10149 shoeblack plant 77.62  
10150 rose 88.11  
> source("C:/unnatis109/R/PRAC12S109.R")  
[1] "--- Data Structure Before Transformation ---"  
[1] "Sepal.Length" "Sepal.Width" "Petal.Length" "Petal.Width" "Species"  
[1] "Species" "Size" "Fragrance" "Height_cm"  
[1] "--- Combined Data Summary ---"  
[1] "Iris rows: 150"  
[1] "Flower rows: 10000"  
[1] "Total rows (Expected): 10150"  
[1] "Total rows (Actual): 10150"  
[1] "--- Preview of combined Data (top and bottom) ---"  
Species Height  
1 setosa 5.1  
2 setosa 4.9  
3 setosa 4.7  
4 setosa 4.6  
5 setosa 5.0  
6 setosa 5.4  
Species Height  
10145 rose 87.69  
10146 hibiscus 109.52  
10147 shoeblack plant 145.23  
10148 hibiscus 126.69  
10149 shoeblack plant 77.62  
10150 rose 88.11  
> |
```

The Environment pane on the right lists the objects in the global environment:

Object	Size
category_pivot	6435 obs. of 46 variables
combined_data	10150 obs. of 2 variables
Data_Science_	42 obs. of 7 variables
df	6435 obs. of 4 variables
df_clean	6435 obs. of 4 variables
employee_sala	50 obs. of 9 variables
flower_clean	10000 obs. of 2 variables
flower_df	10000 obs. of 4 variables
iris	150 obs. of 5 variables
iris_clean	150 obs. of 2 variables
iris_iris	150 obs. of 5 variables
long_df	12870 obs. of 4 variables
penguins	344 obs. of 9 variables
StudentsPerfo	1000 obs. of 8 variables
wide_df	6435 obs. of 4 variables

The Files pane at the bottom shows a list of files in the current directory, including RData, Rhistory, Book1.xlsx, CLOSE.accd, Custom Office Templates, Database1.accd, Database2.accd, and desktop.ini.

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