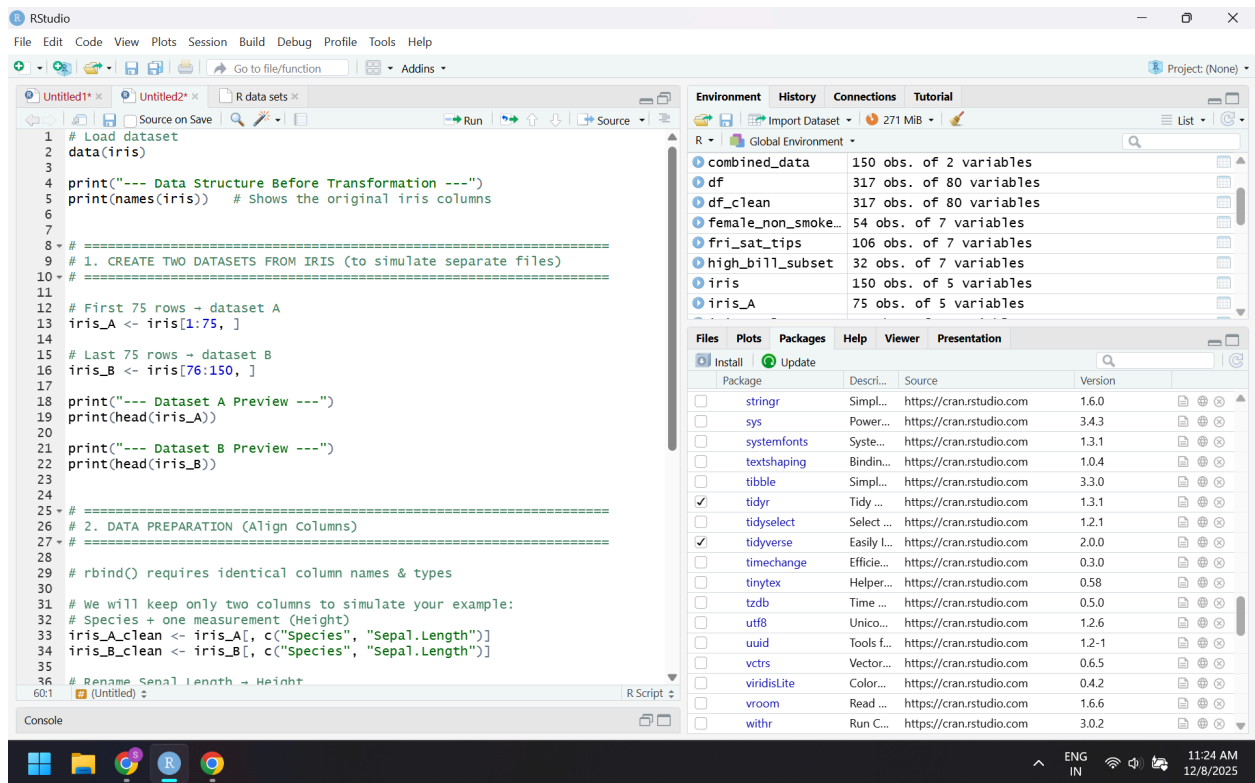


# SHETH L.U.J. & SIR M.V. COLLEGE OF SCIENCE

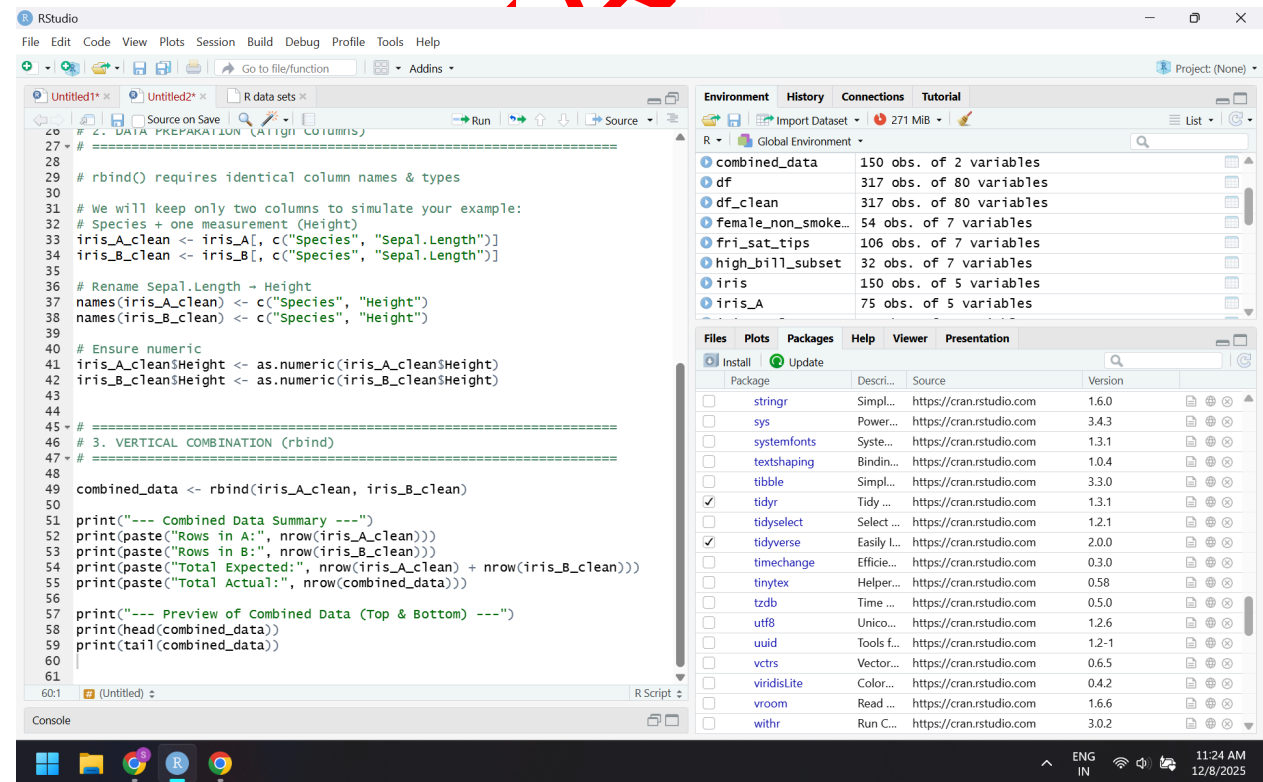
## SUBJECT - Data Analysis with SAS / SPSS / R

Aim :- Combining datasets vertically (concatenation) using rbind() (R).

Input :



```
1 # Load dataset
2 data(iris)
3
4 print("--- Data Structure Before Transformation ---")
5 print(names(iris)) # Shows the original iris columns
6
7
8 # =====
9 # 1. CREATE TWO DATASETS FROM IRIS (to simulate separate files)
10 # =====
11
12 # First 75 rows -> dataset A
13 iris_A <- iris[1:75, ]
14
15 # Last 75 rows -> dataset B
16 iris_B <- iris[76:150, ]
17
18 print("--- Dataset A Preview ---")
19 print(head(iris_A))
20
21 print("--- Dataset B Preview ---")
22 print(head(iris_B))
23
24
25 # =====
26 # 2. DATA PREPARATION (Align Columns)
27 # =====
28
29 # rbind() requires identical column names & types
30
31 # We will keep only two columns to simulate your example:
32 # Species + one measurement (Height)
33 iris_A_clean <- iris_A[, c("Species", "Sepal.Length")]
34 iris_B_clean <- iris_B[, c("Species", "Sepal.Length")]
35
36 # Rename Sepal.Length -> Height
37 names(iris_A_clean) <- c("Species", "Height")
38 names(iris_B_clean) <- c("Species", "Height")
39
40 # Ensure numeric
41 iris_A_clean$Height <- as.numeric(iris_A_clean$Height)
42 iris_B_clean$Height <- as.numeric(iris_B_clean$Height)
43
44 # =====
45 # 3. VERTICAL COMBINATION (rbind)
46 # =====
47
48 combined_data <- rbind(iris_A_clean, iris_B_clean)
49
50 print("--- Combined Data Summary ---")
51 print(paste("Rows in A:", nrow(iris_A_clean)))
52 print(paste("Rows in B:", nrow(iris_B_clean)))
53 print(paste("Total Expected:", nrow(iris_A_clean) + nrow(iris_B_clean)))
54 print(paste("Total Actual:", nrow(combined_data)))
55
56
57 print("--- Preview of Combined Data (Top & Bottom) ---")
58 print(head(combined_data))
59 print(tail(combined_data))
60
61
```



```
27 # 3. VERTICAL COMBINATION (Align Columns)
28
29 # rbind() requires identical column names & types
30
31 # We will keep only two columns to simulate your example:
32 # Species + one measurement (Height)
33 iris_A_clean <- iris_A[, c("Species", "Sepal.Length")]
34 iris_B_clean <- iris_B[, c("Species", "Sepal.Length")]
35
36 # Rename Sepal.Length -> Height
37 names(iris_A_clean) <- c("Species", "Height")
38 names(iris_B_clean) <- c("Species", "Height")
39
40 # Ensure numeric
41 iris_A_clean$Height <- as.numeric(iris_A_clean$Height)
42 iris_B_clean$Height <- as.numeric(iris_B_clean$Height)
43
44 # =====
45 # 3. VERTICAL COMBINATION (rbind)
46 # =====
47
48 combined_data <- rbind(iris_A_clean, iris_B_clean)
49
50 print("--- Combined Data Summary ---")
51 print(paste("Rows in A:", nrow(iris_A_clean)))
52 print(paste("Rows in B:", nrow(iris_B_clean)))
53 print(paste("Total Expected:", nrow(iris_A_clean) + nrow(iris_B_clean)))
54 print(paste("Total Actual:", nrow(combined_data)))
55
56
57 print("--- Preview of Combined Data (Top & Bottom) ---")
58 print(head(combined_data))
59 print(tail(combined_data))
60
61
```

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Roll No - S083

**SHETH L.U.J. & SIR M.V. COLLEGE OF SCIENCE**  
**SUBJECT - Data Analysis with SAS / SPSS / R**

Output :

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins
R data sets
Source on Save
Run
R Script
Console Terminal Background Jobs
R - R4.5.2 - ~/
> # Load dataset
> data(iris)
> print("---- Data Structure Before Transformation ----")
[1] "---- Data Structure Before Transformation ----"
> print(names(iris)) # Shows the original iris columns
[1] "Sepal.Length" "Sepal.Width" "Petal.Length" "Petal.Width" "Species"
> # First 75 rows - dataset A
> iris_A <- iris[1:75, ]
> # Last 75 rows - dataset B
> iris_B <- iris[76:150, ]
> print("---- Dataset A Preview ----")
[1] "---- Dataset A Preview ----"
> print(head(iris_A))
  Sepal.Length Sepal.Width Petal.Length Petal.Width Species
1           5.1           3.5           1.4           0.2 setosa
2           4.9           3.0           1.4           0.2 setosa
3           4.7           3.2           1.3           0.2 setosa
4           4.6           3.1           1.5           0.2 setosa
5           5.0           3.6           1.4           0.2 setosa
6           5.4           3.9           1.7           0.4 setosa
> print("---- Dataset B Preview ----")
[1] "---- Dataset B Preview ----"
> print(head(iris_B))
  Sepal.Length Sepal.Width Petal.Length Petal.Width Species
76           6.6           3.0           4.4           1.4 versicolor
77           6.8           2.8           4.8           1.4 versicolor
78           6.7           3.0           5.0           1.7 versicolor
79           6.0           2.9           4.5           1.5 versicolor
80           5.7           2.6           3.5           1.0 versicolor
81           5.5           2.4           3.8           1.1 versicolor
> # We will keep only two columns to simulate your example:
> # Species + one measurement (Height)
> iris_A_clean <- iris_A[, c("Species", "Sepal.Length")]
> iris_B_clean <- iris_B[, c("Species", "Sepal.Length")]
> print("---- Dataset A Clean Preview ----")
[1] "---- Dataset A Clean Preview ----"
> print(head(iris_A_clean))
  Species Sepal.Length
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("---- Dataset B Clean Preview ----")
[1] "---- Dataset B Clean Preview ----"
> print(head(iris_B_clean))
  Species Sepal.Length
76 virginica           6.6
77 virginica           6.8
78 virginica           6.7
79 virginica           6.0
80 virginica           5.7
81 virginica           5.5
> # Combine the two datasets
> combined_data <- rbind(iris_A_clean, iris_B_clean)
> print("---- Combined Data Summary ----")
[1] "---- Combined Data Summary ----"
> print(paste("Rows in A:", nrow(iris_A_clean)))
[1] "Rows in A: 75"
> print(paste("Rows in B:", nrow(iris_B_clean)))
[1] "Rows in B: 75"
> print(paste("Total Expected:", nrow(iris_A_clean) + nrow(iris_B_clean)))
[1] "Total Expected: 150"
> print(paste("Total Actual:", nrow(combined_data)))
[1] "Total Actual: 150"
> print("---- Preview of Combined Data (Top & Bottom) ----")
[1] "---- Preview of Combined Data (Top & 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
145 virginica 6.7
146 virginica 6.7
147 virginica 6.3
148 virginica 6.5
149 virginica 6.2
150 virginica 5.9
>
>
>
```

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins
R data sets
Source on Save
Run
R Script
Console Terminal Background Jobs
R - R4.5.2 - ~/
> # Ensure numeric
> iris_A_clean$Height <- as.numeric(iris_A_clean$Height)
> iris_B_clean$Height <- as.numeric(iris_B_clean$Height)
> combined_data <- rbind(iris_A_clean, iris_B_clean)
> print("---- Combined Data Summary ----")
[1] "---- Combined Data Summary ----"
> print(paste("Rows in A:", nrow(iris_A_clean)))
[1] "Rows in A: 75"
> print(paste("Rows in B:", nrow(iris_B_clean)))
[1] "Rows in B: 75"
> print(paste("Total Expected:", nrow(iris_A_clean) + nrow(iris_B_clean)))
[1] "Total Expected: 150"
> print(paste("Total Actual:", nrow(combined_data)))
[1] "Total Actual: 150"
> print("---- Preview of Combined Data (Top & Bottom) ----")
[1] "---- Preview of Combined Data (Top & 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
145 virginica 6.7
146 virginica 6.7
147 virginica 6.3
148 virginica 6.5
149 virginica 6.2
150 virginica 5.9
>
>
>
```

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