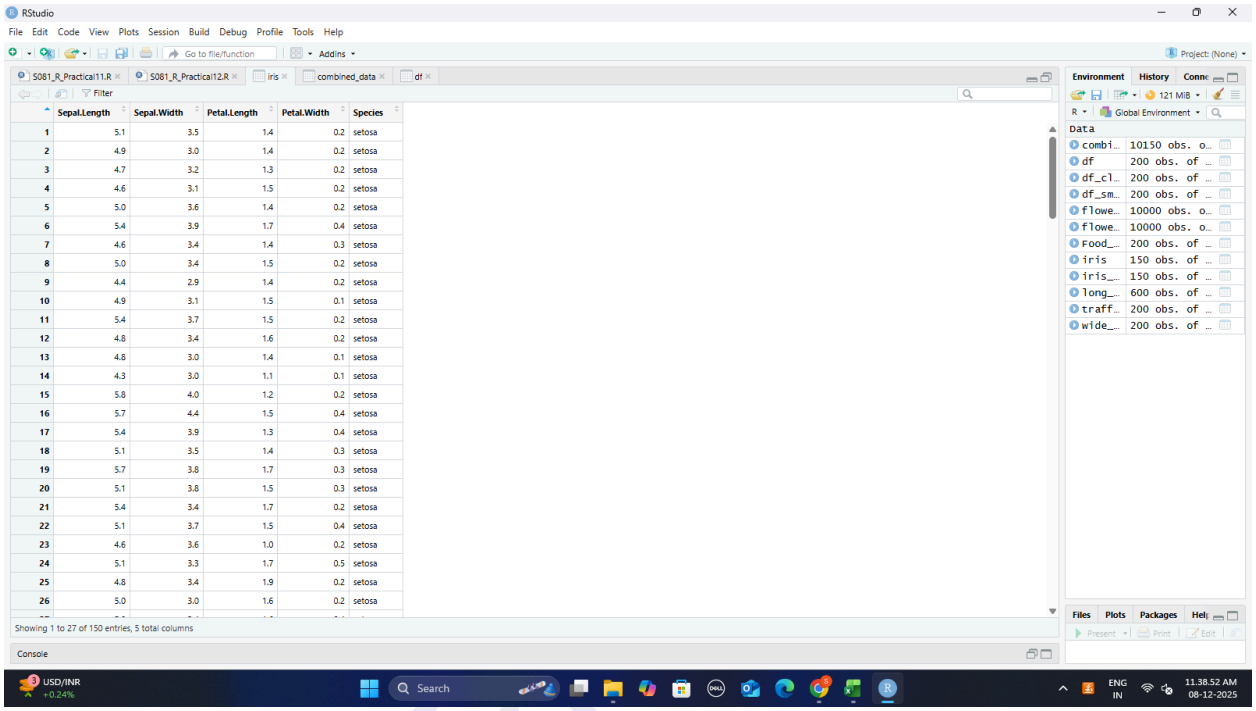
12. Combining datasets vertically (concatenation) using rbind() (R). Write code toCombining datasets vertically (concatenation) using rbind() in R studio.



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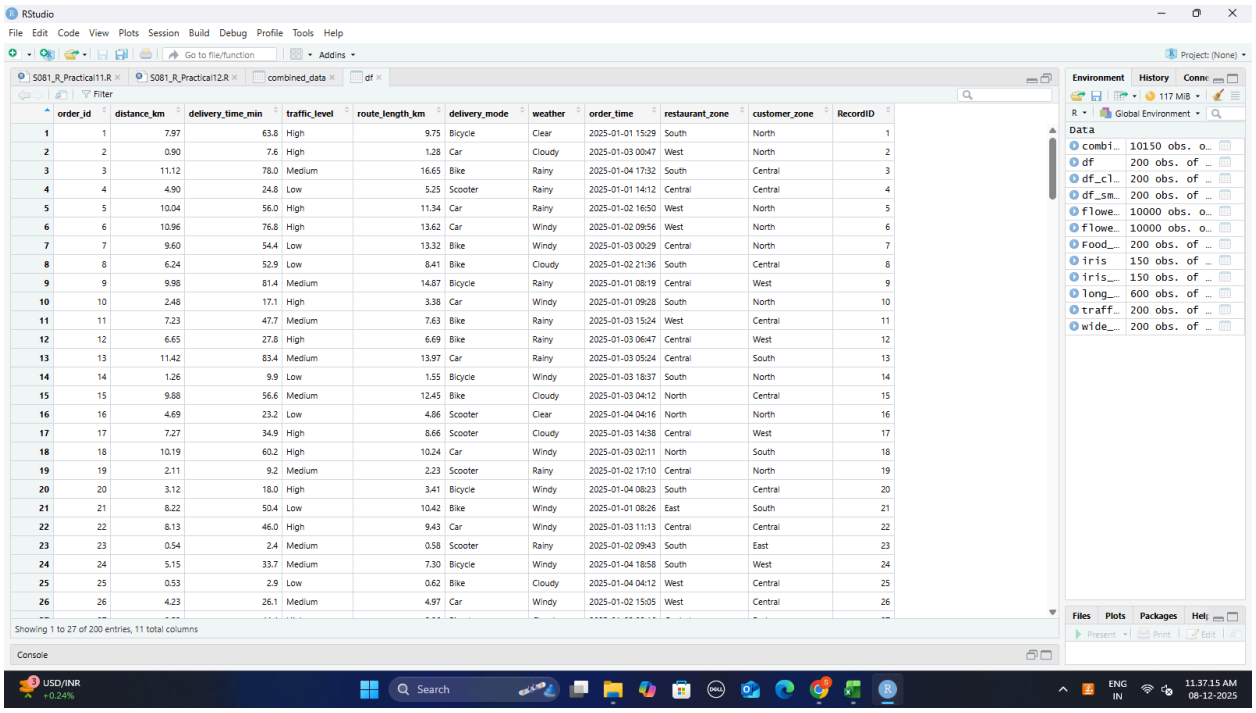
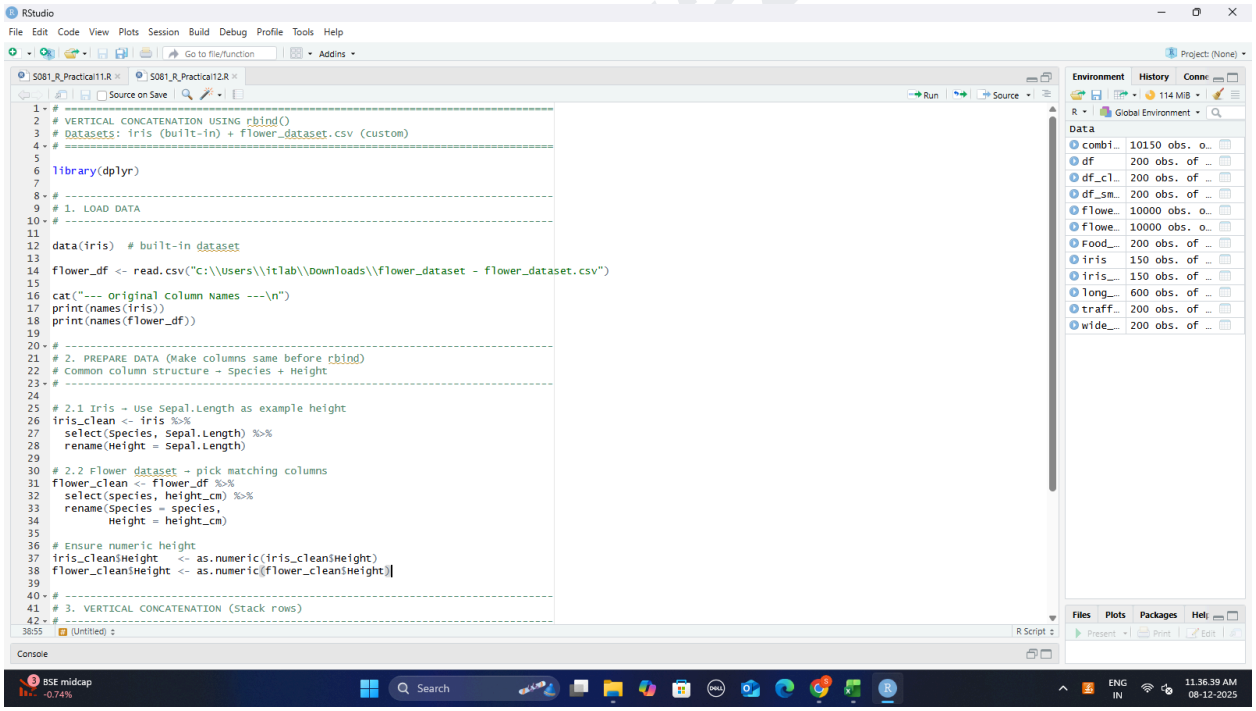


order_id	distance_km	delivery_time_min	traffic_level	route_length_km	delivery_mode	weather	order_time	restaurant_zone	customer_zone	RecordID
1	7.97	63.8	High	9.75	Bicycle	Clear	2025-01-01 15:29	South	North	1
2	0.90	7.6	High	1.28	Car	Cloudy	2025-01-03 00:47	West	North	2
3	11.12	78.0	Medium	16.65	Bike	Rainy	2025-01-04 17:32	South	Central	3
4	4.90	24.8	Low	5.25	Scooter	Rainy	2025-01-01 14:12	Central	Central	4
5	10.04	56.0	High	11.34	Car	Rainy	2025-01-02 16:50	West	North	5
6	10.96	76.8	High	13.62	Car	Windy	2025-01-02 09:56	West	North	6
7	9.60	54.4	Low	13.32	Bike	Windy	2025-01-03 00:29	Central	North	7
8	6.24	52.9	Low	8.41	Bike	Cloudy	2025-01-02 21:36	South	Central	8
9	9.98	81.4	Medium	14.87	Bicycle	Rainy	2025-01-01 08:19	Central	West	9
10	2.48	17.1	High	3.38	Car	Windy	2025-01-01 09:28	South	North	10
11	7.23	47.7	Medium	7.63	Bike	Rainy	2025-01-03 15:24	West	Central	11
12	6.65	27.8	High	6.69	Bike	Rainy	2025-01-03 06:47	Central	West	12
13	11.42	83.4	Medium	13.97	Car	Rainy	2025-01-03 05:24	Central	South	13
14	1.26	9.9	Low	1.55	Bicycle	Windy	2025-01-03 18:37	South	North	14
15	9.88	56.6	Medium	12.45	Bike	Cloudy	2025-01-03 04:12	North	Central	15
16	4.69	23.2	Low	4.86	Scooter	Clear	2025-01-04 04:16	North	North	16
17	7.27	34.9	High	8.66	Scooter	Cloudy	2025-01-03 14:38	Central	West	17
18	10.19	60.2	High	10.24	Car	Windy	2025-01-03 02:11	North	South	18
19	2.11	9.2	Medium	2.23	Scooter	Rainy	2025-01-02 17:10	Central	North	19
20	3.12	18.0	High	3.41	Bicycle	Windy	2025-01-04 08:23	South	Central	20
21	8.22	50.4	Low	10.42	Bike	Windy	2025-01-01 08:26	East	South	21
22	8.13	46.0	High	9.43	Car	Windy	2025-01-03 11:13	Central	Central	22
23	0.54	2.4	Medium	0.58	Scooter	Rainy	2025-01-02 09:43	South	East	23
24	5.15	33.7	Medium	7.30	Bicycle	Windy	2025-01-04 18:58	South	West	24
25	0.53	2.9	Low	0.62	Bike	Cloudy	2025-01-04 04:12	West	Central	25
26	4.23	26.1	Medium	4.97	Car	Windy	2025-01-02 15:05	West	Central	26



```
# ================================================================
# VERTICAL CONCATENATION USING rbind()
# Datasets: iris (built-in) + flower_dataset.csv (custom)
# ================================================================

library(dplyr)

# ----------------------------------------------------------------
# 1. LOAD DATA
# ----------------------------------------------------------------

data(iris)  # built-in dataset

flower_df <- read.csv("C:\\Users\\itlab\\Downloads\\flower_dataset - flower_dataset.csv")

cat("--- Original Column Names ---\n")
print(names(iris))
print(names(flower_df))

# ----------------------------------------------------------------
# 2. PREPARE DATA (Make columns same before rbind)
# Common column structure → Species + Height
# ----------------------------------------------------------------

# 2.1 Iris → Use Sepal.Length as example height
iris_clean <- iris %>%
  select(Species, Sepal.Length) %>%
  rename(Height = Sepal.Length)

# 2.2 Flower dataset → pick matching columns
flower_clean <- flower_df %>%
  select(species, height_cm) %>%
  rename(Species = species,
         Height = height_cm)

# Ensure numeric height
iris_clean$Height   <- as.numeric(iris_clean$Height)
flower_clean$Height <- as.numeric(flower_clean$Height)

# ----------------------------------------------------------------
# 3. VERTICAL CONCATENATION (Stack rows)
# ----------------------------------------------------------------
```

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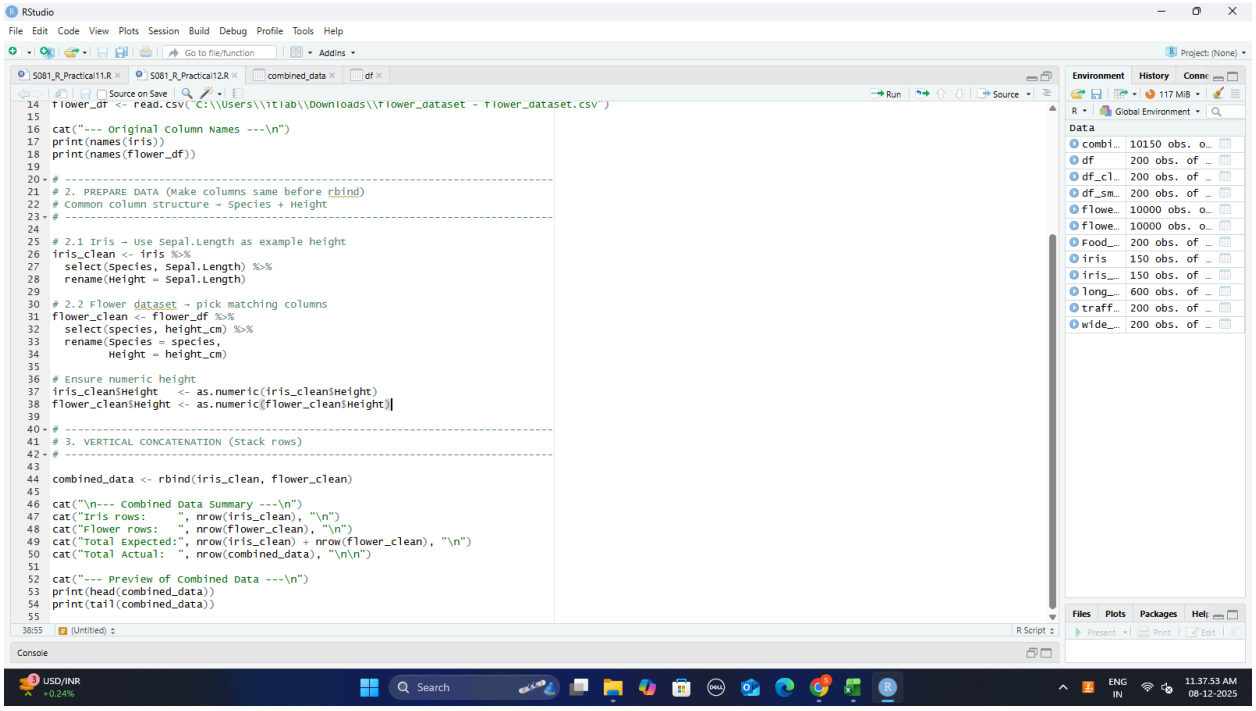
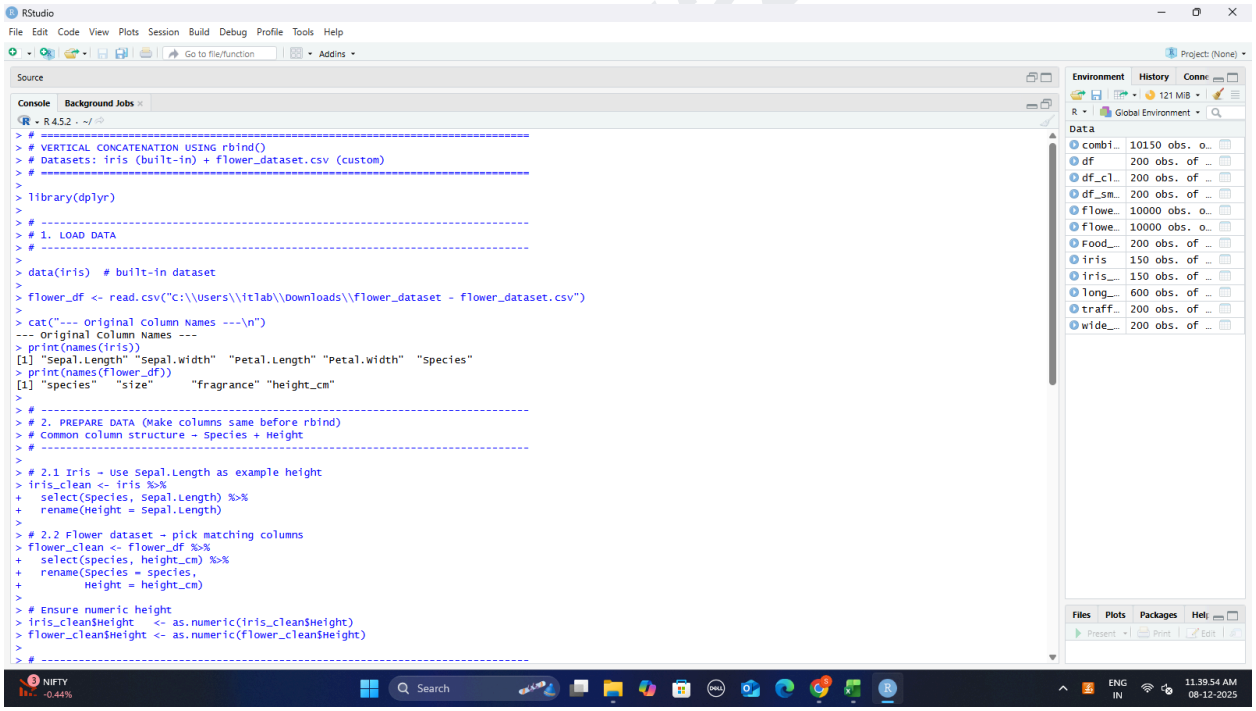


```
flower_df <- read.csv("C:\\Users\\itlab\\Downloads\\flower_dataset - flower_dataset.csv")

cat("--- Original Column Names ---\n")
print(names(iris))
print(names(flower_df))

# ------------------------------------------------------------------------
# 2. PREPARE DATA (Make columns same before rbind)
# Common column structure → Species + Height
# ------------------------------------------------------------------------

# 2.1 Iris → Use Sepal.Length as example height
iris_clean <- iris %>%
  select(Species, Sepal.Length) %>%
  rename(Height = Sepal.Length)

# 2.2 Flower dataset → pick matching columns
flower_clean <- flower_df %>%
  select(species, height_cm) %>%
  rename(Species = species,
         Height = height_cm)

# Ensure numeric height
iris_clean$Height   <- as.numeric(iris_clean$Height)
flower_clean$Height <- as.numeric(flower_clean$Height)

# ------------------------------------------------------------------------
# 3. VERTICAL CONCATENATION (Stack rows)
# ------------------------------------------------------------------------

combined_data <- rbind(iris_clean, flower_clean)

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

cat("--- Preview of Combined Data ---\n")
print(head(combined_data))
print(tail(combined_data))
```



```
> # ========================================================================
> # VERTICAL CONCATENATION USING rbind()
> # Datasets: iris (built-in) + flower_dataset.csv (custom)
> # ========================================================================
>
> library(dplyr)
>
> # ------------------------------------------------------------------------
> # 1. LOAD DATA
> # ------------------------------------------------------------------------
>
> data(iris)  # built-in dataset
>
> flower_df <- read.csv("C:\\Users\\itlab\\Downloads\\flower_dataset - flower_dataset.csv")
>
> cat("--- Original Column Names ---\n")
--- Original Column Names ---
> print(names(iris))
[1] "Sepal.Length" "Sepal.Width"  "Petal.Length" "Petal.Width"  "Species"
> print(names(flower_df))
[1] "species"    "size"       "fragrance" "height_cm"
>
> # ------------------------------------------------------------------------
> # 2. PREPARE DATA (Make columns same before rbind)
> # Common column structure → Species + Height
> # ------------------------------------------------------------------------
>
> # 2.1 Iris → Use Sepal.Length as example height
> iris_clean <- iris %>%
+   select(Species, Sepal.Length) %>%
+   rename(Height = Sepal.Length)
>
> # 2.2 Flower dataset → pick matching columns
> flower_clean <- flower_df %>%
+   select(species, height_cm) %>%
+   rename(Species = species,
+          Height = height_cm)
>
> # Ensure numeric height
> iris_clean$Height   <- as.numeric(iris_clean$Height)
> flower_clean$Height <- as.numeric(flower_clean$Height)
>
> # ------------------------------------------------------------------------
```

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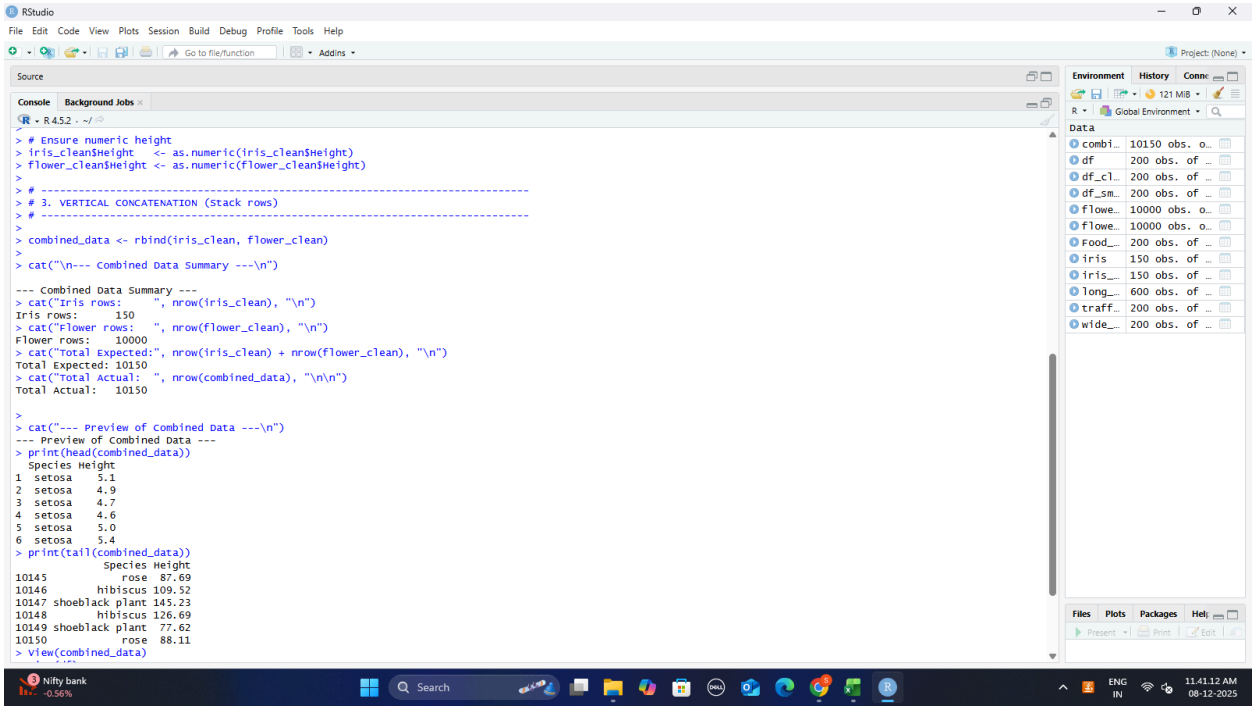

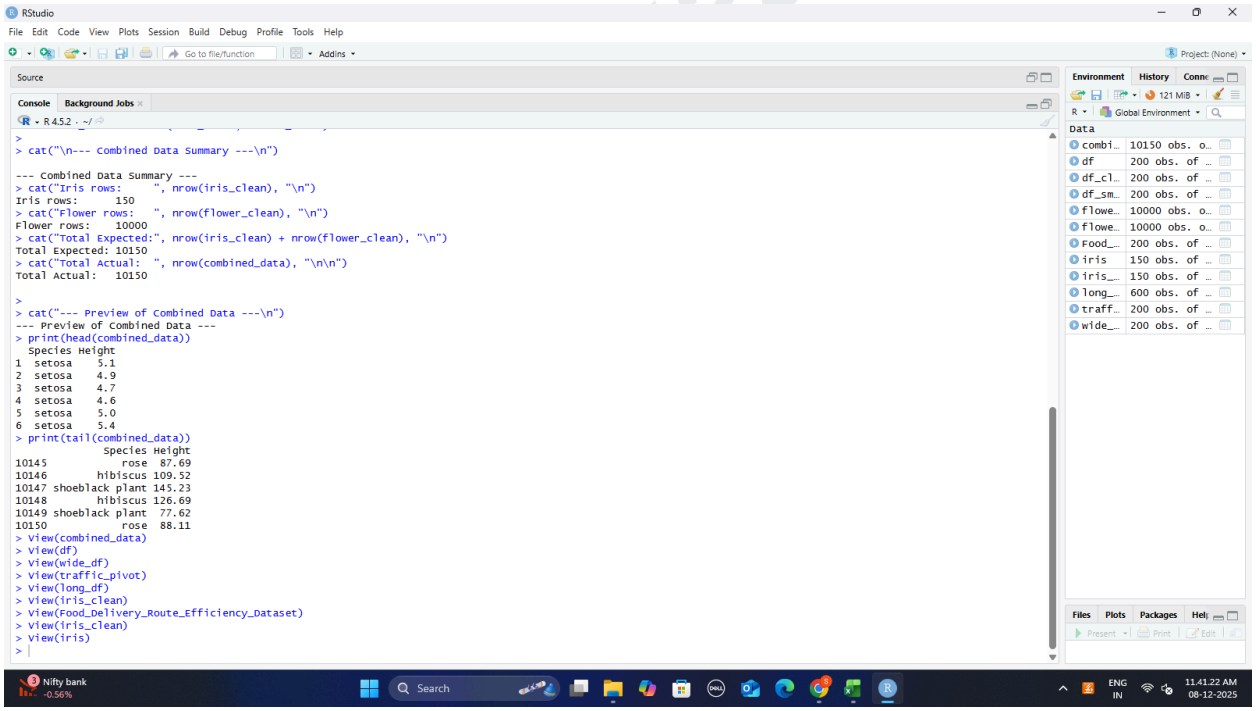

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