

SHETH LUJ AND SIR MV COLLEGE
Subject: Data Analysis with SAS / SPSS /R

Practical No: 6

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

Code:

```
library(dplyr)
```

1. SETUP: Load and Prepare Data

```
country_data <- read.csv("ESGCountry.csv")
series_data <- read.csv("ESGCountry-Series.csv")

country_list_1 <- head(country_data, 5)
country_list_2 <- country_data[6:10, ]

print("--- Country List 1 (First 5) ---")
print(head(country_list_1[, c("Country.Code", "Short.Name")])))

print("--- Country List 2 (Next 5) ---")
print(head(country_list_2[, c("Country.Code", "Short.Name")]))
```

2. MERGE (Joining Columns)

```
merged_data <- merge(
  country_data,
  series_data,
  by.x = "Country.Code", # Column name in first dataset
  by.y = "CountryCode" # Column name in second dataset
)

print("--- Merged Data (Columns Added) ---")
print(head(merged_data[, c("Country.Code", "Short.Name", "SeriesCode", "DESCRIPTION")]))
```

3. APPEND (Stacking Rows)

```
final_list <- bind_rows(country_list_1, country_list_2)

print("--- Appended Data (Rows Added) ---")
print(final_list[, c("Country.Code", "Short.Name")])
```

Output:

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S097

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R version 4.5.2 (2025-10-31 ucrt) -- "[Not] Part in a Rumble"
Copyright (C) 2025 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64

R is free software and comes with ABSOLUTELY NO WARRANTY.
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Natural language support but running in an English locale

R is a collaborative project with many contributors.
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Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

```
> ESGCountry <- read.csv("~/Data Analysis with SAS , SPSS, R/datasets/ESGCountry.csv", header=FALSE)
> View(ESGCountry)
> ESGCountry.Series <- read.csv("~/Data Analysis with SAS , SPSS, R/datasets/ESGCountry-Series.csv")
> View(ESGCountry.Series)
> library(dplyr)
```

Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

filter, lag

The following objects are masked from 'package:base':

intersect, setdiff, setequal, union

```
> country_data <- read.csv("ESGCountry.csv")
> series_data <- read.csv("ESGCountry-Series.csv")
> country_list_1 <- head(country_data, 5)
> country_list_2 <- country_data[6:10, ]
> print("--- Country List 1 (First 5) ---")
```

Environment History Connections Tutorial

Import Dataset 155 MB R Global Environment

Data

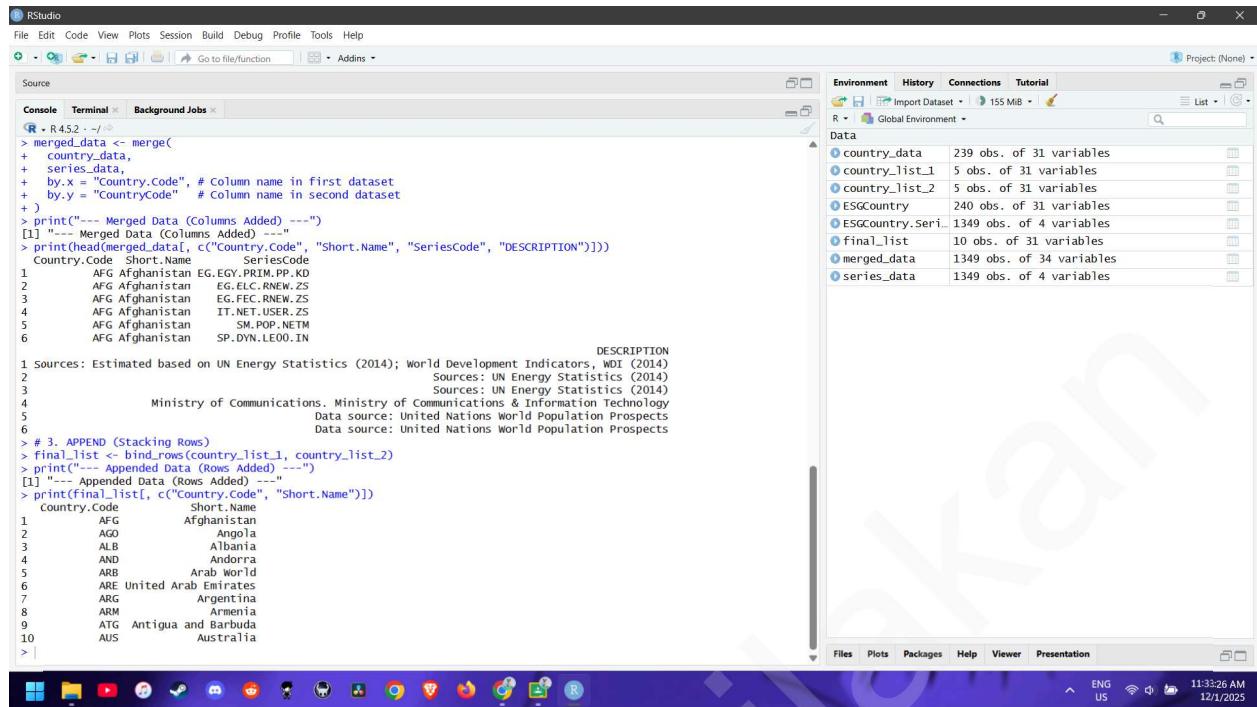
	country_data	239 obs. of 31 variables
country_list_1	5 obs. of 31 variables	
country_list_2	5 obs. of 31 variables	
ESGCountry	240 obs. of 31 variables	
ESGCountry.Series	1349 obs. of 4 variables	
final_list	10 obs. of 31 variables	
merged_data	1349 obs. of 34 variables	
series_data	1349 obs. of 4 variables	

Files Plots Packages Help Viewer Presentation

The screenshot shows the RStudio interface with the following details:

- File menu:** File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, Help.
- Toolbar:** Includes icons for file operations like Open, Save, Print, and a Go to file/function search bar.
- Console tab:** Active, showing R code and its output. The code involves merging multiple datasets: country_data, country.list_1, country.list_2, ESGCountry, EsCountry.Seri..., final_list, merged_data, and series_data. It uses various merge functions (merge, merge2) with specific column mappings (e.g., "Country.Code" to "CountryCode").
- Environment tab:** Shows the global environment with objects like country_data, country.list_1, country.list_2, ESGCountry, EsCountry.Seri..., final_list, merged_data, and series_data, each with their respective dimensions.
- Bottom tabs:** Files, Plots, Packages, Help, Viewer, Presentation.
- System tray:** Shows icons for battery, signal strength, and system status.
- Bottom right:** Date and time (11:31:18 AM 12/1/2025), and ENG US language indicators.

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The screenshot shows the RStudio interface with the following details:

- Console Tab:** Displays R code and its output. The code involves merging datasets, printing merged data, and appending rows. It also includes descriptive comments and sources.
- Environment Tab:** Shows the global environment with objects like `country_data`, `final_list`, `merged_data`, and `series_data`.
- Data View:** Shows the structure of various data frames, such as `country_data` (239 obs. of 31 variables) and `merged_data` (1349 obs. of 34 variables).
- Bottom Status Bar:** Shows system information like battery level, signal strength, and the date/time (11:33:26 AM, 12/1/2025).

```
R > merged_data <- merge(
+   country_data,
+   series_data,
+   by.x = "Country.Code", # Column name in first dataset
+   by.y = "CountryCode" # Column name in second dataset
+ )
> print("---- Merged Data (Columns Added) ----")
[1] "---- Merged Data (Columns Added) ----"
> print(head(merged_data[, c("Country.Code", "Short.Name", "SeriesCode", "DESCRIPTION")]))
Country.Code Short.Name SeriesCode
1      AFG Afghanistan EG.EGY.PRM.PP.KD
2      AFG Afghanistan EG.ELC.RNEW.ZS
3      AFG Afghanistan EG.FEC.RNEW.ZS
4      AFG Afghanistan IT.NET.USER.ZS
5      AFG Afghanistan SM.POP.NETM
6      AFG Afghanistan SP.DYN.LE00.IN
                                         DESCRIPTION
1 Sources: Estimated based on UN Energy Statistics (2014); world Development Indicators, WDI (2014)
2 Sources: UN Energy Statistics (2014)
3 Sources: UN Energy Statistics (2014)
4 Ministry of Communications, Ministry of Communications & Information Technology
5 Data source: United Nations World Population Prospects
6 Data source: United Nations World Population Prospects
> # 3. APPEND (Stacking Rows)
> final_list <- bind_rows(country_list_1, country_list_2)
> print("---- Appended Data (Rows Added) ----")
[1] "---- Appended Data (Rows Added) ----"
> print(final_list[, c("Country.Code", "Short.Name")])
  Country.Code Short.Name
1      AFG Afghanistan
2      AGO Angola
3      ALB Albania
4      AND Andorra
5      ARB Arab World
6      ARE United Arab Emirates
7      ARG Argentina
8      ARM Armenia
9      ATG Antigua and Barbuda
10     AUS Australia
> |
```