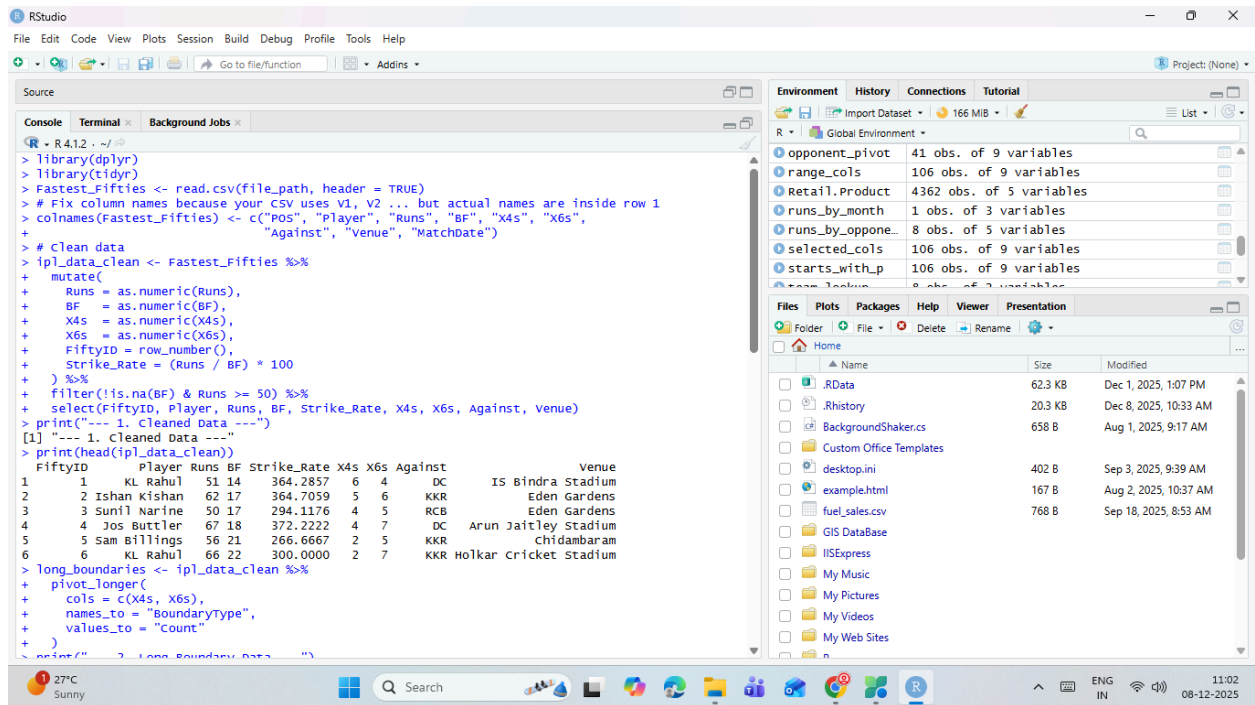


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R PRACTICAL 11

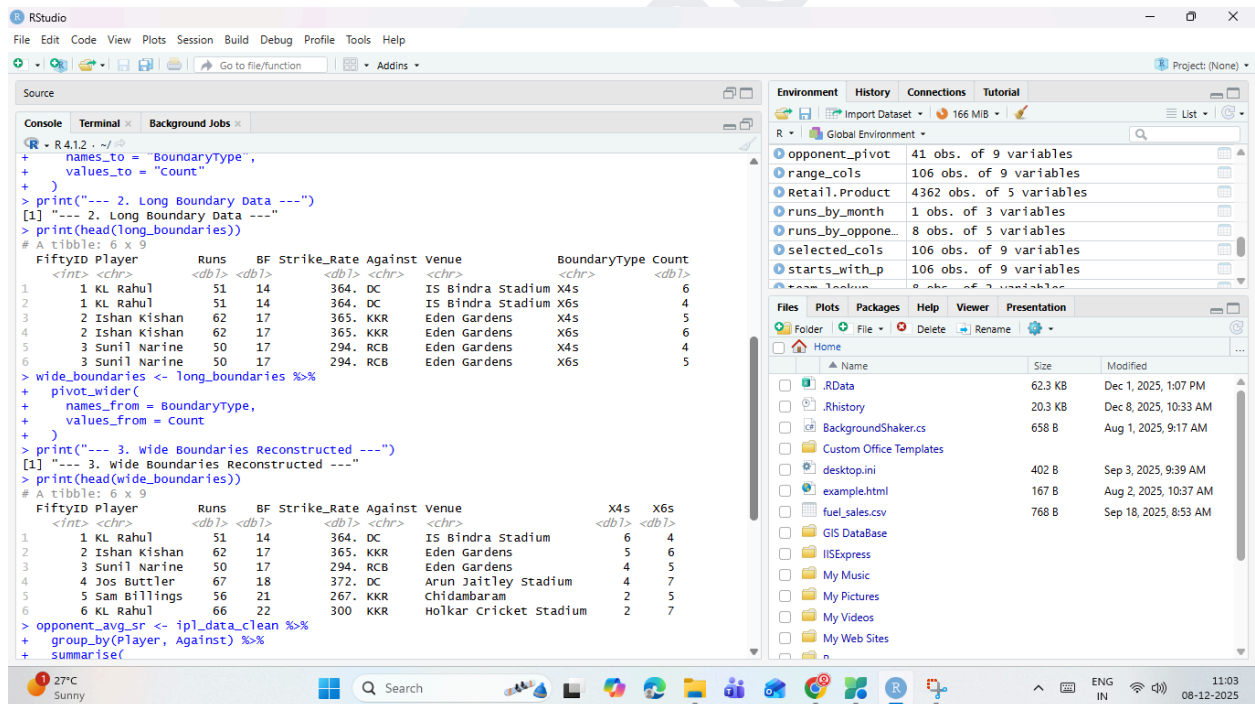
Aim: Reshaping data using pivot_longer()/pivot_wider() (R).

Output:



```
R - R4.1.2 - ~/...
> library(dplyr)
> library(tidyverse)
> Fastest_Fifties <- read.csv(file_path, header = TRUE)
> # Fix column names because your csv uses V1, V2 ... but actual names are inside row 1
> colnames(Fastest_Fifties) <- c("POS", "Player", "Runs", "BF", "X4s", "X6s",
+                               "Against", "Venue", "MatchDate")
> # Clean data
> ipl_data_clean <- Fastest_Fifties %>%
+   mutate(
+     Runs = as.numeric(Runs),
+     BF = as.numeric(BF),
+     X4s = as.numeric(X4s),
+     X6s = as.numeric(X6s),
+     FiftyID = row_number(),
+     Strike_Rate = (Runs / BF) * 100
+   ) %>%
+   filter(!is.na(BF) & Runs >= 50) %>%
+   select(FiftyID, Player, Runs, BF, Strike_Rate, X4s, X6s, Against, Venue)
> print("--- 1. Cleaned data ---")
[1] "--- 1. Cleaned data ---"
> print(head(ipl_data_clean))
  FiftyID Player Runs BF Strike_Rate X4s X6s Against Venue
1      1  KL Rahul  51  14    364.2857  6  4    DC    IS Bindra Stadium
2      2  Ishan Kishan  62  17    364.7059  5  6    KKR    Eden Gardens
3      3  Sunil Narine  50  17    294.1176  4  5    RCB    Eden Gardens
4      4  Jos Buttler  67  18    372.2222  4  7    DC    Arun Jaitley Stadium
5      5  Sam Billings  56  21    266.6667  2  5    KKR    Chidambaram
6      6  KL Rahul  66  22    300.0000  2  7    KKR    Holkar cricket Stadium

> long_boundaries <- ipl_data_clean %>%
+   pivot_longer(
+     cols = c(X4s, X6s),
+     names_to = "BoundaryType",
+     values_to = "Count"
+   )
> print("--- 2. Long Boundary Data ---")
```



```
R - R4.1.2 - ~/...
> names_to = "BoundaryType",
+   values_to = "Count"
+ )
> print("--- 2. Long Boundary Data ---")
[1] "--- 2. Long Boundary Data ---"
> print(head(long_boundaries))
# A tibble: 6 x 9
  FiftyID Player Runs BF Strike_Rate Against Venue BoundaryType Count
  <int> <chr> <dbl> <dbl> <dbl> <chr> <chr> <chr> <dbl>
1      1  KL Rahul  51  14    364. DC    IS Bindra Stadium X4s 6
2      1  KL Rahul  51  14    364. DC    IS Bindra Stadium X6s 4
3      2  Ishan Kishan  62  17    365. KKR    Eden Gardens X4s 5
4      2  Ishan Kishan  62  17    365. KKR    Eden Gardens X6s 6
5      3  Sunil Narine  50  17    294. RCB    Eden Gardens X4s 4
6      3  Sunil Narine  50  17    294. RCB    Eden Gardens X6s 5

> wide_boundaries <- long_boundaries %>%
+   pivot_wider(
+     names_from = BoundaryType,
+     values_from = Count
+   )
> print("--- 3. wide Boundaries Reconstructed ---")
[1] "--- 3. wide Boundaries Reconstructed ---"
> print(head(wide_boundaries))
# A tibble: 6 x 9
  FiftyID Player Runs BF Strike_Rate Against Venue X4s X6s
  <int> <chr> <dbl> <dbl> <dbl> <chr> <chr> <dbl> <dbl>
1      1  KL Rahul  51  14    364. DC    IS Bindra Stadium 6 4
2      2  Ishan Kishan  62  17    365. KKR    Eden gardens 5 6
3      3  Sunil Narine  50  17    294. RCB    Eden Gardens 4 5
4      4  Jos Buttler  67  18    372. DC    Arun Jaitley Stadium 4 7
5      5  Sam Billings  56  21    267. KKR    Chidambaram 2 5
6      6  KL Rahul  66  22    300. KKR    Holkar cricket stadium 2 7

> opponent_avg_sr <- ipl_data_clean %>%
+   group_by(Player, Against) %>%
+   summarise(
```

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The screenshot shows the RStudio interface with the following components:

- Console:** Displays R code and output. The code includes data cleaning, summarization, and pivot operations. The output shows a tibble with 6 rows and 9 columns.
- Environment:** Lists objects in the global environment, including 'opponent_pivot' (41 obs. of 9 variables) and 'range_cols' (106 obs. of 9 variables).
- Files:** Shows the file explorer with various folders and files, including 'tue1_sales.csv' and 'SM PRACTICAL - II 20.txt'.

R Code:

```
R - R4.1.2 ~\...
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins
Source
Console Terminal Background Jobs
# A tibble: 6 x 9
FiftyID Player Runs BF Strike_Rate Against Venue X4s X6s
<int> <chr> <dbl> <dbl> <dbl> <chr> <chr> <dbl> <dbl>
1 1 KL Rahul 51 14 364. DC Is Bindra Stadium 6 4
2 2 Ishan Kishan 62 17 365. KKR Eden Gardens 5 6
3 3 Sunil Narine 50 17 294. RCB Eden Gardens 4 5
4 4 Jos Buttler 67 18 372. DC Arun Jaitley Stadium 4 7
5 5 Sam Billings 56 21 267. KKR Chidambaram 2 5
6 6 KL Rahul 66 22 300 KKR Holkar Cricket Stadium 2 7

> opponent_avg_sr <- ipl_data_clean %>%
+ group_by(Player, Against) %>%
+ summarise(
+ Avg_Strike_Rate = mean(Strike_Rate),
+ .groups = "drop"
+ )
> opponent_pivot <- opponent_avg_sr %>%
+ pivot_wider(
+ names_from = Against,
+ values_from = Avg_Strike_Rate,
+ values_fill = NA
+ )
> print("--- 4. Player vs opponent Strike Rate Pivot ---")
[1] "--- 4. Player vs opponent Strike Rate Pivot ---"
> print(head(opponent_pivot))
# A tibble: 6 x 9
Player CSK DC PBKS RR SRH RCB KKR MI
<chr> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>
1 AB de villiers 296. 316. 158. 171. 216. NA NA NA
2 Ajinkya Rahane NA NA NA NA 155. NA NA NA
3 Ambati Rayudu NA 179. NA NA 308. 205 NA NA
4 Andre Russell 338. NA NA NA NA NA NA NA
5 Chris Gayle 286. NA NA NA 267. NA 221. 132.
6 Chris Lynn NA NA 247. NA 153. 148. NA NA
```

Environment:

Object	Size
opponent_pivot	41 obs. of 9 variables
range_cols	106 obs. of 9 variables
Retail.Product	4362 obs. of 5 variables
runs_by_month	1 obs. of 3 variables
runs_by_oppone...	8 obs. of 5 variables
selected_cols	106 obs. of 9 variables
starts_with_p	106 obs. of 9 variables

Files:

Name	Size	Modified
tue1_sales.csv	700 B	Sep 18, 2023, 8:35 AM
GIS DataBase		
IISExpress		
My Music		
My Pictures		
My Videos		
My Web Sites		
R		
SM PRACTICAL - II 20.txt	1.2 KB	Aug 22, 2025, 3:02 PM
SM PRACTICAL - II.txt	1.2 KB	Aug 22, 2025, 3:01 PM
total_bills.csv	1.2 KB	Sep 18, 2025, 8:47 AM
Virtual Machines		
Visual Studio 2022		
WindowsPowerShell		