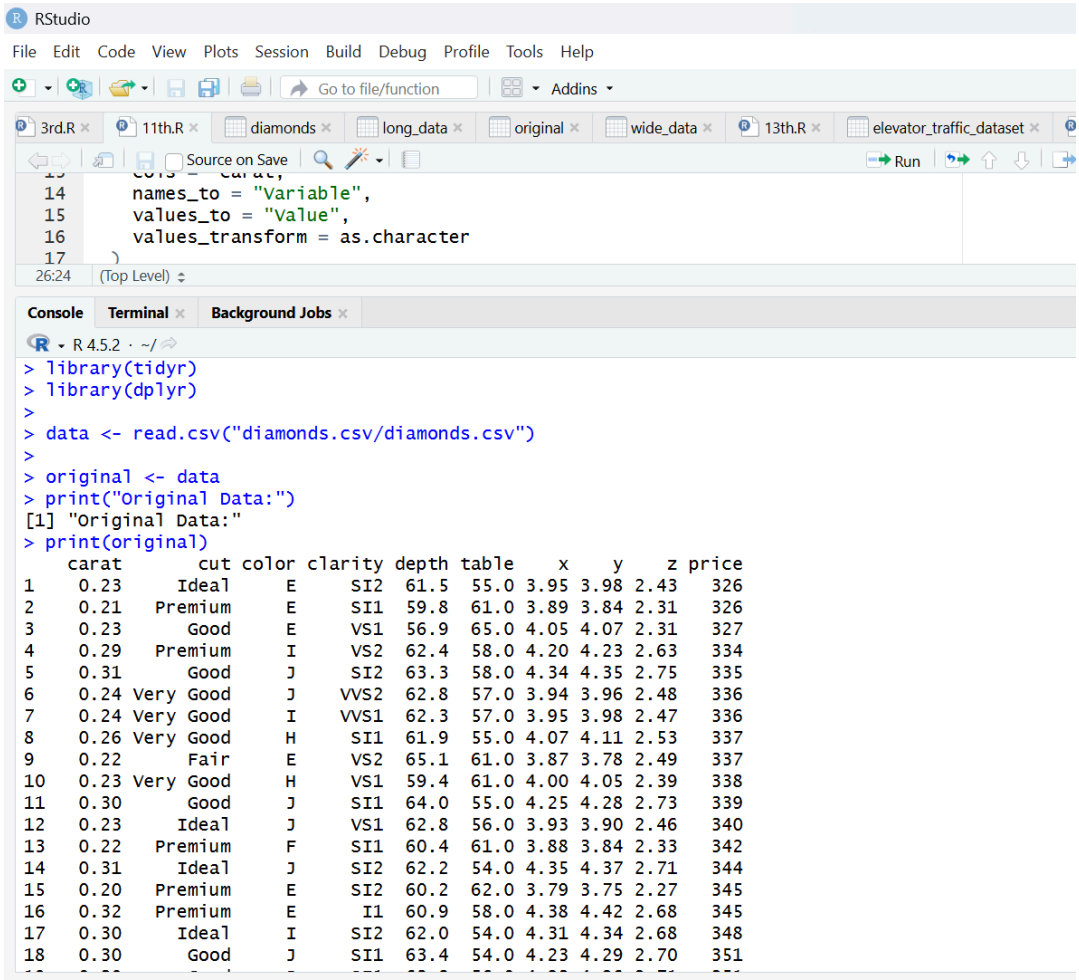
Sheth l.u.j. And sir m.v. college of arts science and commerce

Practical no.11th

Aim: 11Reshaping data using PROC TRANSPOSE (SAS), Restructure Data Wizard (SPSS), and pivot_longer()/pivot_wider() (R).



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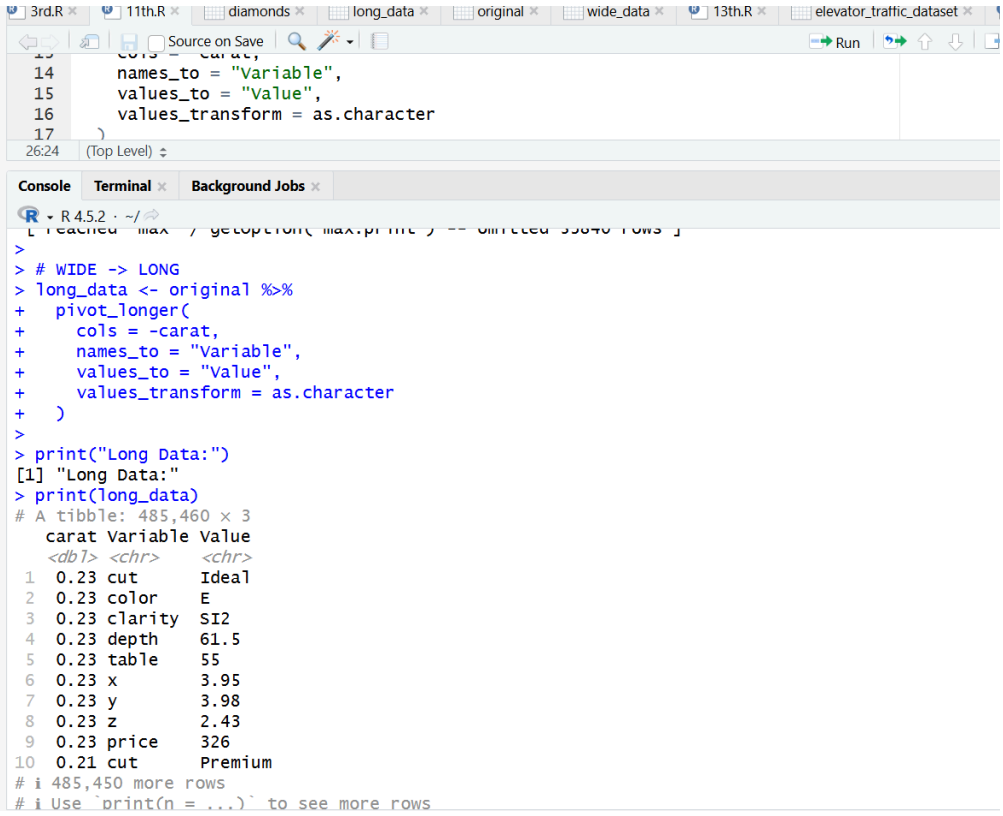
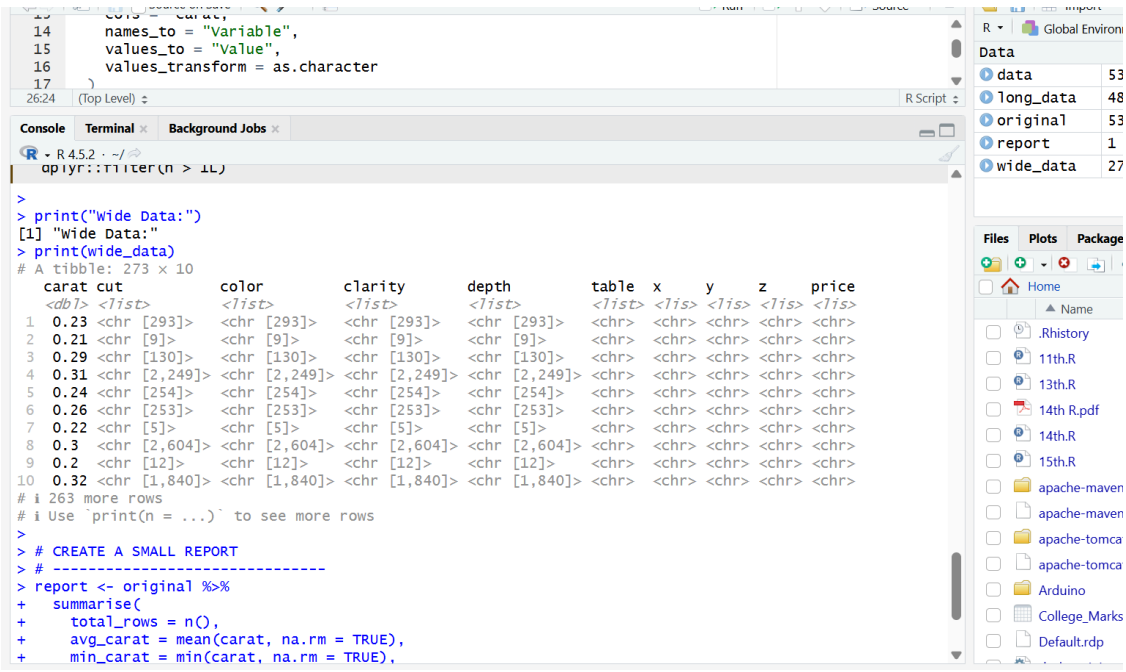


```
  14      names_to = "Variable",
  15      values_to = "Value",
  16      values_transform = as.character
  17    )
```

```
> 
> # WIDE -> LONG
> long_data <- original %>%
+   pivot_longer(
+     cols = -carat,
+     names_to = "Variable",
+     values_to = "Value",
+     values_transform = as.character
+   )
> 
> print("Long Data:")
[1] "Long Data:"
> print(long_data)
# A tibble: 485,460 × 3
   carat Variable Value
   <dbl> <chr>    <chr>
 1  0.23 cut      Ideal
 2  0.23 color    E
 3  0.23 clarity  SI2
 4  0.23 depth    61.5
 5  0.23 table    55
 6  0.23 x        3.95
 7  0.23 y        3.98
 8  0.23 z        2.43
 9  0.23 price    326
10  0.21 cut      Premium
# i 485,450 more rows
# i Use `print(n = ...)` to see more rows
```



```
  14      names_to = "Variable",
  15      values_to = "Value",
  16      values_transform = as.character
  17    )
```

```
> 
> print("Wide Data:")
[1] "Wide Data:"
> print(wide_data)
# A tibble: 273 × 10
   carat cut           color         clarity       depth         table  x      y      z      price
   <dbl> <list>        <list>        <list>        <list>        <list> <list> <list> <list> <list>
 1  0.23 <chr [293]>   <chr [293]>   <chr [293]>   <chr [293]>   <chr>  <chr>  <chr>  <chr>  <chr>
 2  0.21 <chr [9]>     <chr [9]>     <chr [9]>     <chr [9]>     <chr>  <chr>  <chr>  <chr>  <chr>
 3  0.29 <chr [130]>   <chr [130]>   <chr [130]>   <chr [130]>   <chr>  <chr>  <chr>  <chr>  <chr>
 4  0.31 <chr [2,249]> <chr [2,249]> <chr [2,249]> <chr [2,249]> <chr>  <chr>  <chr>  <chr>  <chr>
 5  0.24 <chr [254]>   <chr [254]>   <chr [254]>   <chr [254]>   <chr>  <chr>  <chr>  <chr>  <chr>
 6  0.26 <chr [253]>   <chr [253]>   <chr [253]>   <chr [253]>   <chr>  <chr>  <chr>  <chr>  <chr>
 7  0.22 <chr [5]>     <chr [5]>     <chr [5]>     <chr [5]>     <chr>  <chr>  <chr>  <chr>  <chr>
 8  0.3  <chr [2,604]> <chr [2,604]> <chr [2,604]> <chr [2,604]> <chr>  <chr>  <chr>  <chr>  <chr>
 9  0.2  <chr [12]>    <chr [12]>    <chr [12]>    <chr [12]>    <chr>  <chr>  <chr>  <chr>  <chr>
10  0.32 <chr [1,840]> <chr [1,840]> <chr [1,840]> <chr [1,840]> <chr>  <chr>  <chr>  <chr>  <chr>
# i 263 more rows
# i Use `print(n = ...)` to see more rows
> 
> # CREATE A SMALL REPORT
> # ------------------------------
> report <- original %>%
+   summarise(
+     total_rows = n(),
+     avg_carat = mean(carat, na.rm = TRUE),
+     min_carat = min(carat, na.rm = TRUE),
```

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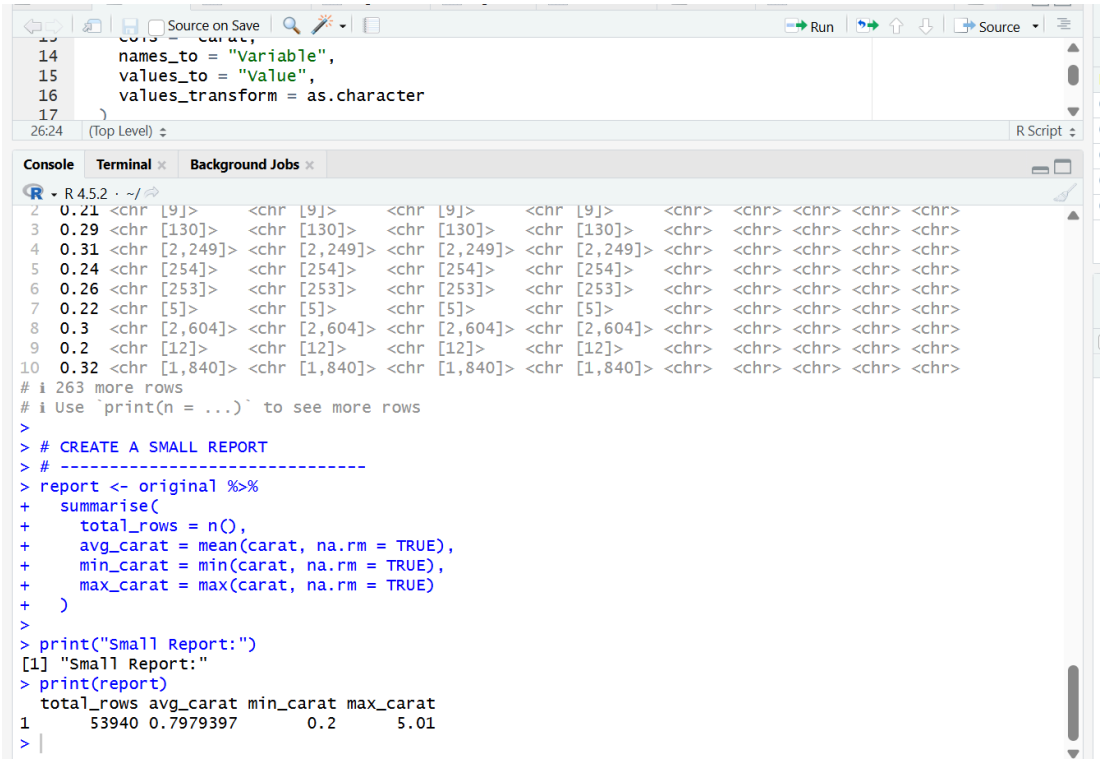

```
Source on Save | Run | Source
14      names_to = "Variable",
15      values_to = "Value",
16      values_transform = as.character
17    )
26:24 (Top Level) R Script

Console  Terminal  Background Jobs
R 4.5.2 · ~/
 2  0.21 <chr [9]>     <chr [9]>     <chr [9]>     <chr [9]>     <chr>  <chr> <chr> <chr> <chr>
 3  0.29 <chr [130]>   <chr [130]>   <chr [130]>   <chr [130]>   <chr>  <chr> <chr> <chr> <chr>
 4  0.31 <chr [2,249]> <chr [2,249]> <chr [2,249]> <chr [2,249]> <chr>  <chr> <chr> <chr> <chr>
 5  0.24 <chr [254]>   <chr [254]>   <chr [254]>   <chr [254]>   <chr>  <chr> <chr> <chr> <chr>
 6  0.26 <chr [253]>   <chr [253]>   <chr [253]>   <chr [253]>   <chr>  <chr> <chr> <chr> <chr>
 7  0.22 <chr [5]>     <chr [5]>     <chr [5]>     <chr [5]>     <chr>  <chr> <chr> <chr> <chr>
 8  0.3  <chr [2,604]> <chr [2,604]> <chr [2,604]> <chr [2,604]> <chr>  <chr> <chr> <chr> <chr>
 9  0.2  <chr [12]>    <chr [12]>    <chr [12]>    <chr [12]>    <chr>  <chr> <chr> <chr> <chr>
10  0.32 <chr [1,840]> <chr [1,840]> <chr [1,840]> <chr [1,840]> <chr>  <chr> <chr> <chr> <chr>
# i 263 more rows
# i Use `print(n = ...)` to see more rows
>
> # CREATE A SMALL REPORT
> # --------------------------------
> report <- original %>%
+   summarise(
+     total_rows = n(),
+     avg_carat = mean(carat, na.rm = TRUE),
+     min_carat = min(carat, na.rm = TRUE),
+     max_carat = max(carat, na.rm = TRUE)
+   )
>
> print("Small Report:")
[1] "Small Report:"
> print(report)
  total_rows avg_carat min_carat max_carat
1      53940 0.7979397       0.2      5.01
>
```

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