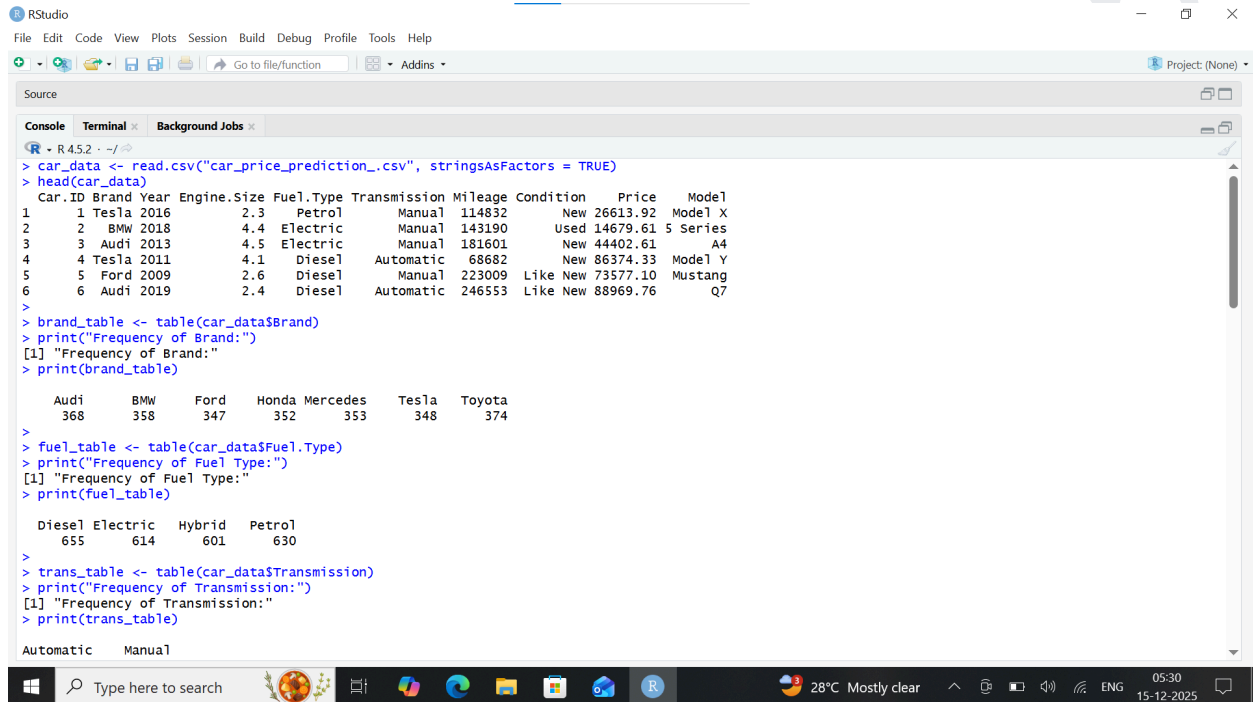


Practical No 3 Module II

Aim : Creating cross-tabulations and two-way tables using table() (R)

Output :



```

R - R4.5.2 - ~/
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)
Source
Console Terminal Background Jobs
R - R4.5.2 - ~/
> car_data <- read.csv("car_price_prediction_.csv", stringsAsFactors = TRUE)
> head(car_data)
  Car.ID Brand Year Engine.Size Fuel.Type Transmission Mileage Condition Price Model
1      1  Tesla 2016         2.3   Petrol      Manual  114832      New 26613.92 Model X
2      2   BMW  2018         4.4   Electric    Manual  143190     Used 14679.61 5 Series
3      3   Audi 2013         4.5   Electric    Manual  181601      New 44402.61   A4
4      4  Tesla 2011         4.1   Diesel    Automatic  68682      New 86374.33 Model Y
5      5   Ford 2009         2.6   Diesel      Manual  223009    Like New 73577.10 Mustang
6      6   Audi 2019         2.4   Diesel    Automatic  246553    Like New 88969.76   Q7
>
> brand_table <- table(car_data$Brand)
> print("Frequency of Brand:")
[1] "Frequency of Brand:"
> print(brand_table)

   Audi   BMW   Ford   Honda Mercedes   Tesla   Toyota
   368   358   347   352     353     348     374
>
> fuel_table <- table(car_data$Fuel.Type)
> print("Frequency of Fuel Type:")
[1] "Frequency of Fuel Type:"
> print(fuel_table)

 Diesel Electric Hybrid  Petrol
   655     614     601     630
>
> trans_table <- table(car_data$Transmission)
> print("Frequency of Transmission:")
[1] "Frequency of Transmission:"
> print(trans_table)

Automatic   Manual
   655     614
  
```

SHETH L.U.J. AND SIR M.V. COLLEGE OF ARTS SCIENCE AND COMMERCE

SUBJECT : R Programming

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)

Source
Console Terminal Background Jobs
R - R 4.5.2 - ~/
> print(trans_table)

Automatic    Manual
      1192      1308
>
> cond_table <- table(car_data$Condition)
> print("Frequency of Condition:")
[1] "Frequency of Condition:"
> print(cond_table)

Like New    New    Used
      836    809    855
>
> brand_fuel_table <- table(car_data$Brand, car_data$Fuel.Type)
> print("Brand vs Fuel Type:")
[1] "Brand vs Fuel Type:"
> print(brand_fuel_table)

      Diesel Electric Hybrid Petrol
Audi      97      94      81      96
BMW       92      91      86      89
Ford      85      85      86      91
Honda     103      75      87      87
Mercedes   83      82      80     108
Tesla      88     100      85      75
Toyota     107      87      96      84
>
> trans_cond_table <- table(car_data$Transmission, car_data$Condition)
> print("Transmission vs condition:")
[1] "Transmission vs condition:"
> print(trans_cond_table)

      Like New New Used
Automatic  394 386 412
Manual    442 423 443
>
> brand_fuel_prop <- prop.table(brand_fuel_table)
> print("Proportion - Brand vs Fuel Type:")
[1] "Proportion - Brand vs Fuel Type:"
> print(round(brand_fuel_prop, 2))

      Diesel Electric Hybrid Petrol
Audi     0.04     0.04     0.03     0.04
BMW       0.04     0.04     0.03     0.04
Ford       0.03     0.03     0.03     0.04
Honda      0.04     0.03     0.03     0.04
Mercedes   0.03     0.03     0.03     0.04
Tesla      0.04     0.04     0.03     0.03
Toyota     0.04     0.03     0.04     0.03
>
> trans_cond_prop <- prop.table(trans_cond_table)
> print("Proportion - Transmission vs Condition:")
[1] "Proportion - Transmission vs Condition:"
> print(round(trans_cond_prop, 2))

      Like New New Used
Automatic  0.16 0.15 0.16
Manual    0.18 0.17 0.18
>
```

```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins Project: (None)

Source
Console Terminal Background Jobs
R - R 4.5.2 - ~/
> trans_cond_table <- table(car_data$Transmission, car_data$Condition)
> print("Transmission vs condition:")
[1] "Transmission vs condition:"
> print(trans_cond_table)

      Like New New Used
Automatic  394 386 412
Manual    442 423 443
>
> brand_fuel_prop <- prop.table(brand_fuel_table)
> print("Proportion - Brand vs Fuel Type:")
[1] "Proportion - Brand vs Fuel Type:"
> print(round(brand_fuel_prop, 2))

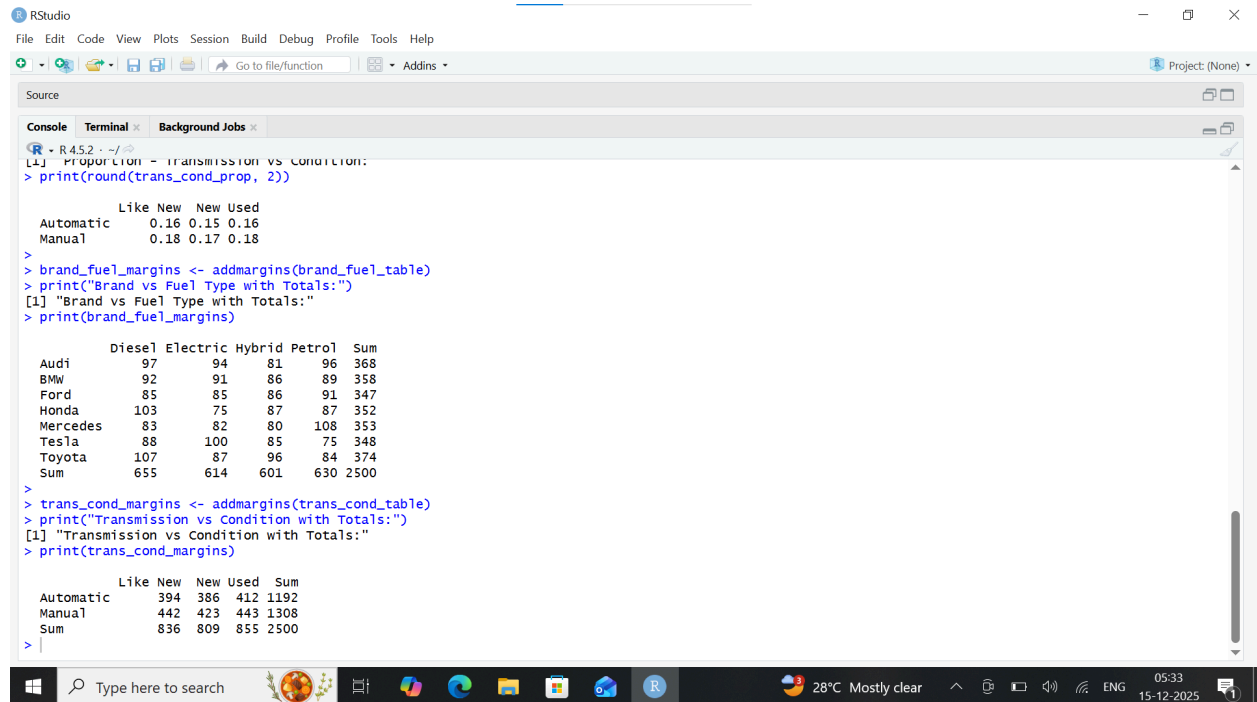
      Diesel Electric Hybrid Petrol
Audi     0.04     0.04     0.03     0.04
BMW       0.04     0.04     0.03     0.04
Ford       0.03     0.03     0.03     0.04
Honda      0.04     0.03     0.03     0.04
Mercedes   0.03     0.03     0.03     0.04
Tesla      0.04     0.04     0.03     0.03
Toyota     0.04     0.03     0.04     0.03
>
> trans_cond_prop <- prop.table(trans_cond_table)
> print("Proportion - Transmission vs Condition:")
[1] "Proportion - Transmission vs Condition:"
> print(round(trans_cond_prop, 2))

      Like New New Used
Automatic  0.16 0.15 0.16
Manual    0.18 0.17 0.18
>
```

NAME : SHUBHAM SANJAY KARAPE
ROLL NO : S085

SHETH L.U.J. AND SIR M.V. COLLEGE OF ARTS SCIENCE AND COMMERCE

SUBJECT : R Programming



```
R - R4.5.2 - ~/R
[1] Proper from - Transmission vs Condition:
> print(round(trans_cond_prop, 2))

      Like New  New Used
Automatic  0.16 0.15 0.16
Manual    0.18 0.17 0.18
>
> brand_fuel_margins <- addmargins(brand_fuel_table)
> print("Brand vs Fuel Type with Totals:")
[1] "Brand vs Fuel Type with Totals:"
> print(brand_fuel_margins)

      Diesel Electric Hybrid Petrol Sum
Audi      97      94      81      96 368
BMW       92      91      86      89 358
Ford      85      85      86      91 347
Honda     103      75      87      87 352
Mercedes   83      82      80     108 353
Tesla      88     100      85      75 348
Toyota     107      87      96      84 374
Sum       655     614     601     630 2500
>
> trans_cond_margins <- addmargins(trans_cond_table)
> print("Transmission vs Condition with Totals:")
[1] "Transmission vs Condition with Totals:"
> print(trans_cond_margins)

      Like New  New Used Sum
Automatic  394  386  412 1192
Manual    442  423  443 1308
Sum       836  809  855 2500
>
```

The screenshot shows the RStudio interface with the console window active. The code executed in the console includes: 1. A message '[1] Proper from - Transmission vs Condition:'. 2. A command to print the rounded proportions of transmission vs condition, resulting in a table for Automatic and Manual transmissions. 3. A command to create 'brand_fuel_margins' using 'addmargins' on 'brand_fuel_table'. 4. A command to print 'Brand vs Fuel Type with Totals:', resulting in a message. 5. A command to print 'brand_fuel_margins', resulting in a table showing counts and sums for various car brands across different fuel types. 6. A command to create 'trans_cond_margins' using 'addmargins' on 'trans_cond_table'. 7. A command to print 'Transmission vs Condition with Totals:', resulting in a message. 8. A command to print 'trans_cond_margins', resulting in a table showing counts and sums for Automatic and Manual transmissions.

NAME : SHUBHAM SANJAY KARAPE
ROLL NO : S085