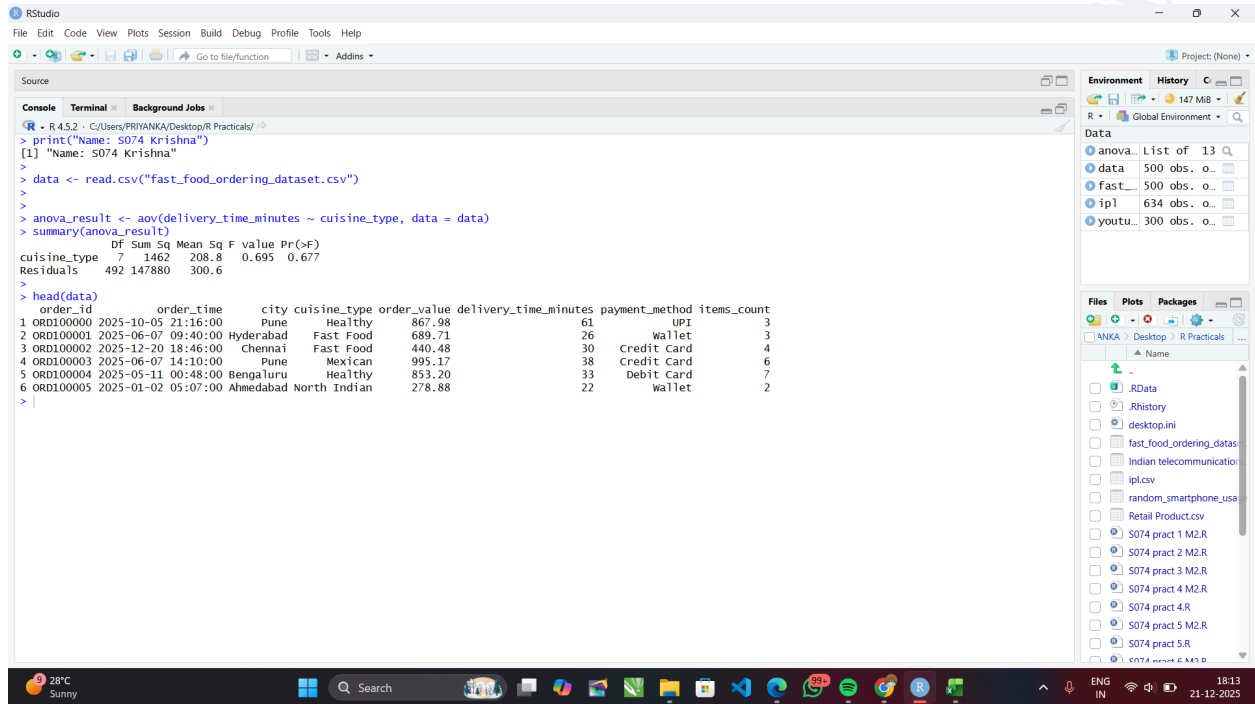


**SHETH L.U.J AND SIR M.V. COLLEGE**  
**SUBJECT NAME: DATA ANALYSIS WITH SAS/SPSS/R**

**Module 2 Practical 7-9**

**Aim:** Performing one-way ANOVA using aov() (R).

**OUTPUT:**



The screenshot shows the RStudio interface with the following content:

```
R 4.5.2 - C:/Users/PRIVANKA/Desktop/R Practicals/
File Edit Code View Plots Session Build Debug Profile Tools Help
Source
Console Terminal Background Jobs
> print("Name: S074 Krishna")
[1] "Name: S074 Krishna"
>
> data <- read.csv("fast_food_ordering_dataset.csv")
>
> anova_result <- aov(delivery_time_minutes ~ cuisine_type, data = data)
> summary(anova_result)
              Df Sum Sq Mean Sq F value Pr(>F)
cuisine_type    7  1462    208.8   0.695  0.677
Residuals    492 147880    300.6
>
> head(data)
  order_id order_time city cuisine_type order_value delivery_time_minutes payment_method items_count
1 ORD100000 2025-10-05 21:16:00 Pune Healthy 867.98 61 UPI 3
2 ORD100001 2025-06-07 09:40:00 Hyderabad Fast Food 689.71 26 wallet 3
3 ORD100002 2025-12-20 18:46:00 Chennai Fast Food 440.48 30 Credit Card 4
4 ORD100003 2025-06-07 14:10:00 Pune Mexican 995.17 38 Credit Card 6
5 ORD100004 2025-05-11 00:48:00 Bengaluru Healthy 853.20 33 Debit Card 7
6 ORD100005 2025-01-02 05:07:00 Ahmedabad North Indian 278.88 22 wallet 2
>
```

The Environment pane on the right shows the following data objects:

- anova: List of 13
- data: 500 obs. o...
- fast: 500 obs. o...
- ipl: 634 obs. o...
- youtu: 300 obs. o...

The Files pane shows the following files:

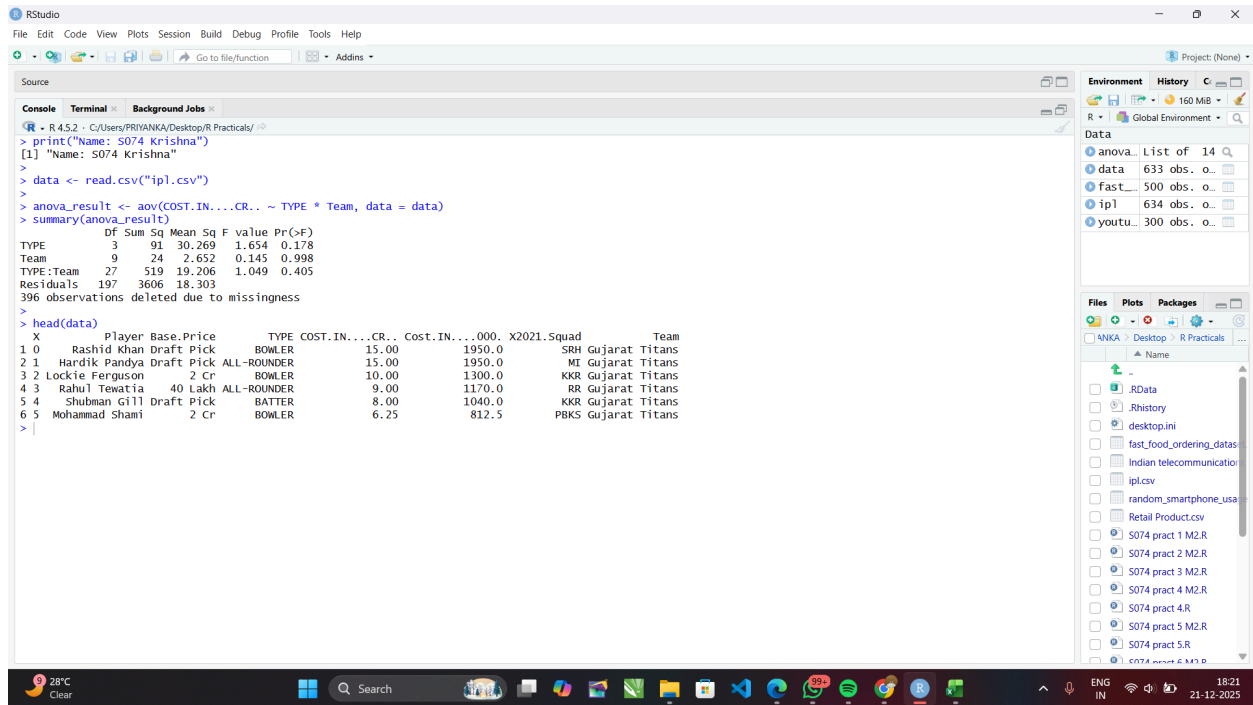
- .RData
- .Rhistory
- desktop.ini
- fast\_food\_ordering\_datas...
- Indian telecommunication...
- ipl.csv
- random\_smartphone\_usa...
- Retail Product.csv
- S074 pract 1 M2.R
- S074 pract 2 M2.R
- S074 pract 3 M2.R
- S074 pract 4 M2.R
- S074 pract 5 M2.R
- S074 pract 5.R

The system tray at the bottom shows the date and time: 21-12-2025, 18:13.

**SHETH L.U.J AND SIR M.V. COLLEGE**  
**SUBJECT NAME: DATA ANALYSIS WITH SAS/SPSS/R**

**Aim:** Performing two-way ANOVA using aov() (R).

**OUTPUT:**

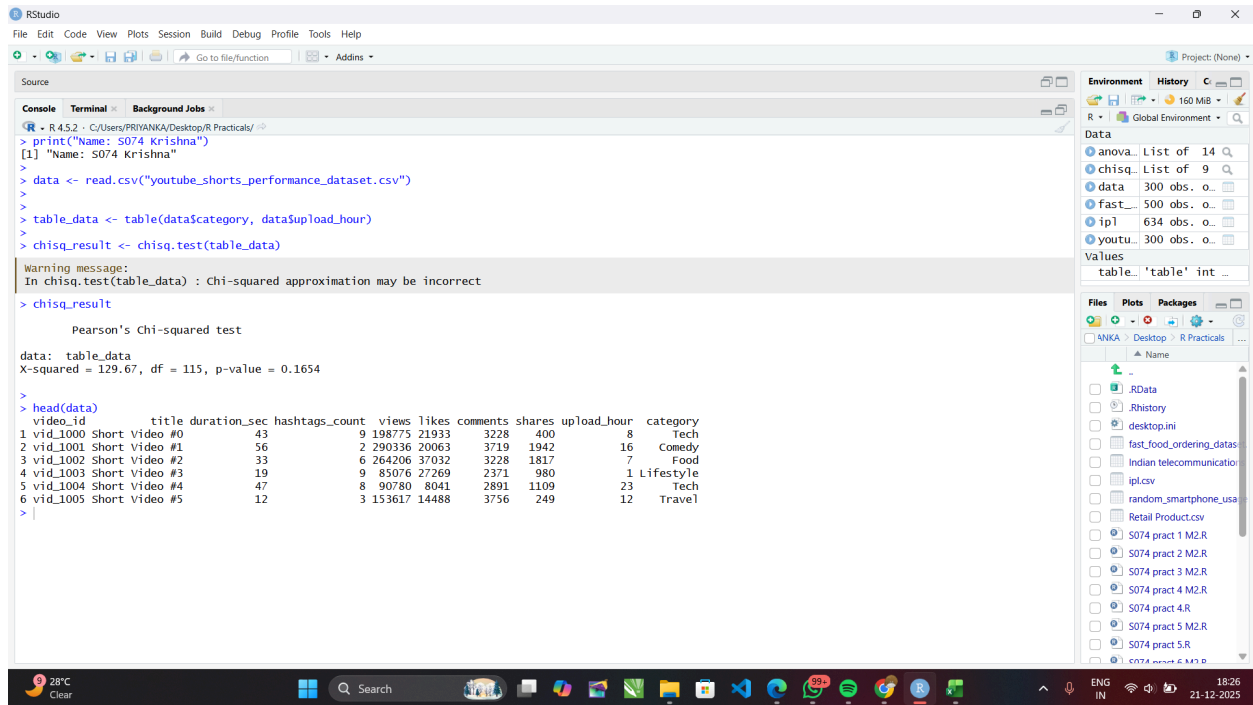


```
R - R 4.5.2 - C:/Users/PRIVANKA/Desktop/R Practicals/
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins
Source
Console Terminal Background Jobs
R - R 4.5.2 - C:/Users/PRIVANKA/Desktop/R Practicals/
> print("Name: S074 Krishna")
[1] "Name: S074 Krishna"
>
> data <- read.csv("ipl.csv")
>
> anova_result <- aov(COST.IN...CR.. ~ TYPE * Team, data = data)
> summary(anova_result)
              Df Sum Sq Mean Sq F value Pr(>F)
TYPE           3    91  30.269   1.654  0.178
Team            9    24   2.652   0.145  0.998
TYPE:Team       27   519  19.206   1.049  0.405
Residuals      197  3606  18.303
396 observations deleted due to missingness
>
> head(data)
  X Player Base.Price TYPE COST.IN...CR.. Cost.IN...000. X2021.Squad Team
1 0 Rashid Khan Draft Pick BOWLER      15.00      1950.0 SRH Gujarat Titans
2 1 Hardik Pandya Draft Pick ALL-ROUNDER  15.00      1950.0 MI Gujarat Titans
3 2 Lockie Ferguson      2 Cr BOWLER      10.00      1300.0 KKR Gujarat Titans
4 3 Rahul Tewatia      40 Lakh ALL-ROUNDER  9.00      1170.0 RR Gujarat Titans
5 4 Shubman Gill Draft Pick BATTER       8.00      1040.0 KKR Gujarat Titans
6 5 Mohammad Shami      2 Cr BOWLER       6.25       812.5 PBKS Gujarat Titans
> |
```

**SHETH L.U.J AND SIR M.V. COLLEGE**  
**SUBJECT NAME: DATA ANALYSIS WITH SAS/SPSS/R**

**Aim:** Conducting Chi-square tests using `chisq.test()` (R).

**OUTPUT:**



```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins
Source
Console Terminal Background Jobs
R - R 4.5.2 - C:/Users/PRIVANKA/Desktop/R Practicals/
> print("Name: S074 Krishna")
[1] "Name: S074 Krishna"
>
> data <- read.csv("youtube_shorts_performance_dataset.csv")
>
> table_data <- table(data$category, data$upload_hour)
>
> chisq_result <- chisq.test(table_data)

Warning message:
In chisq.test(table_data) : Chi-squared approximation may be incorrect
> chisq_result

Pearson's Chi-squared test

data: table_data
X-squared = 129.67, df = 115, p-value = 0.1654

> head(data)
  video_id title duration_sec hashtags_count views likes comments shares upload_hour category
1 vid_1000 Short Video #0 43 9 198775 21933 3228 400 8 Tech
2 vid_1001 Short Video #1 56 2 290336 20063 3719 1942 16 Comedy
3 vid_1002 Short Video #2 33 6 264206 37032 3228 1817 7 Food
4 vid_1003 Short Video #3 19 9 85076 27269 2371 980 1 Lifestyle
5 vid_1004 Short Video #4 47 8 90780 8041 2891 1109 23 Tech
6 vid_1005 Short Video #5 12 3 153617 14488 3756 249 12 Travel
> |
```