

SHETH L.U.J. AND SIR M.V. COLLEGE

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

The screenshot shows the RStudio interface. The console window displays the following R code and its execution:

```
R> library(dplyr)
R> df <- read.csv("Updated Quality of Life Data.csv")
R> str(df)
'data.frame': 10000 obs. of 8 variables:
 $ id : int 10001 10002 10003 10004 10005 10006 10007 10008 10009 10010 ...
 $ gender : chr "Female" "Male" "Female" "Female" ...
 $ occupation_type : chr "Teacher" "Office worker" "Manager" "Freelancer" ...
 $ avg_work_hours_per_day : num 6.6 9.65 13.77 10.94 9.81 ...
 $ avg_rest_hours_per_day : num 10.92 7.65 1 5.18 5.11 ...
 $ avg_sleep_hours_per_day : num 5.38 6.31 8.02 7.59 7.38 4.39 8.66 0.88 6.2 6.76 ...
 $ avg_exercise_hours_per_day: num 1.1 0.39 1.21 0.29 1.7 0.85 1.5 0 1.03 3 ...
 $ age_at_death : int 88 76 78 74 78 87 64 51 63 78 ...
> df$occupation_type <- as.factor(df$occupation_type)
> anova_model <- aov(avg_sleep_hours_per_day ~ occupation_type, data = df)
> summary(anova_model)
```

The output of the summary command is:

```
Call:
aov(formula = avg_sleep_hours_per_day ~ occupation_type, data = df)

Residuals: 9986 48763 4.883
          DF Sum Sq Mean Sq F value    Pr(>F)
occupation_type 13   267 20.523  4.203 4.91e-07 ***
Residuals      9986 48763 4.883
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

The environment tab shows various objects defined in the session, such as anova_model, big_companies, body_weight_df, brain_weight_df, car_delivery_sorted, delivery, delivery_multi_sort, delivery_sorted_dist, and delivery_sorted_keyw.

The file browser shows a folder structure with files like S093_Chetan_Mandavkar_FP_Soft_Copy_Documentation_1[1].docx, seattle-weather.csv, Shrutimandavkar - Exercise 1.docx.pdf, SHRUTI MANDAVKAR EVS REPORT.pdf, Structure and functions of pancreas Shruti Mandavkar.pptx, Student Stress Factors (2).csv, synthetic_fraud_dataset.csv, Synthetic_Transportation_Dataset_Expanded_v2.csv, transactions.csv, Virtual Machines, WhatsApp Image 2025-11-25 at 19.51.57_2b9447da.jpg, youth_unemployment_global.csv, data.csv, future_jobs_dataset.csv, Updated Quality of Life Data.csv, and Practical_No_7_M2.R.

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