

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

SUBJECT NAME:data analysis

PRACTICAL 7

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



RStudio

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Source

```
R452 - />
> library(tidyverse)
> data <- read.csv("~/5086 R Prac 7 to 9/AI_Impact_on_Jobs_2030.csv")
>
> data <- data %>
+   filter(!is.na(Average_Salary), !is.na(Education_Level))
>
> grand_mean <- mean(data$Average_Salary)
> n_total <- nrow(data)
> k <- length(unique(data$Education_Level))
>
> ss_between_df <- data %>
+   group_by(Education_Level) %>
+   summarise(
+     n_g = n(),
+     mean_g = mean(Average_Salary),
+   ) %>
+   mutate(ssq_diff = n_g * (mean_g - grand_mean)^2)
>
> ss_between <- sum(ssq_diff)
> ss_total <- sum((data$Average_Salary - grand_mean)^2)
> ss_within <- ss_total - ss_between
>
> df_between <- k - 1
> df_within <- n_total - k
>
> ms_between <- ss_between / df_between
> ms_within <- ss_within / df_within
>
> f_stat <- ms_between / ms_within
> p_value <- pf(f_stat, df_between, df_within, lower.tail = FALSE)
>
> cat("Manual ANOVA Results: Salary by Education Level ---\n")
--- Manual ANOVA Results: Salary by Education Level ---
> cat("F-statistic: ", f_stat, "\n")
F-statistic: 1.073041
> cat("p-value: ", p_value, "\n")
p-value: 0.3592291
> cat("DF Between: ", df_between, "\n")
DF Between: 3
> cat("DF Within: ", df_within, "\n")
DF Within: 2996
>
```

Environment History Connections Tutorial

R 4.2.1 Global Environment 191 MB

w_lwLWfH	2390L
f_stat	1.0730414550076
grand_mean	89372.279
k	4L
median_exposure	0.5
median_salary	89318
ms_between	1285109108.03662
ms_within	1197632302.12529
n_total	3000L
p_value	0.359229135250154
ss_between	3855327324.10986
ss_total	3591961704491.48
ss_within	3588106377167.37

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Roxxygen Quick Reference

roxygen2 is an R package that allows you to write in-source documentation for your package functions and objects.

Write documentation above your package functions with the `#`` comment prefix.

Documenting Functions

Example

```
#' This is the title.
#' This is the description.
#'
#' These are further details.
#'
#' @section A Custom Section:
#'
#' Text accompanying the custom section.
#'
#' @param x A description of the parameter 'x'. The
#'   description can span multiple lines.
#' @param y A description of the parameter 'y'.
#' @returns The sum of 'x' and 'y'.
#' @export
#' @examples
```

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