

# MVLU COLLEGE

## AIM:

7 Performing one-way ANOVA using aov() (R).

The screenshot shows the RStudio interface with the following R code in the console tab:

```
> data1 <- read.csv("C:/Users/ANSI/Desktop/practice/SYCS/sem 4/Data Analysis with SAS SPSS R/Effect of Teaching Method on Student Marks.csv")
> head(data1)
  Student Teaching_Method Marks
1       1           Method_A   68
2       2           Method_A   70
3       3           Method_A   72
4       4           Method_A   69
5       5           Method_A   71
6       6           Method_A   73
>
> anova_one <- aov(Marks ~ Teaching_Method, data = data1)
> summary(anova_one)
   Df Sum Sq Mean Sq F value    Pr(>F)
Teaching_Method  2  938.6   469.3   161.2 9.73e-16 ***
Residuals      27   78.6     2.9
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
> |
```

8 Performing two-way ANOVA using aov() (R).

The screenshot shows the RStudio interface with the following R code in the console tab:

```
> data2 <- read.csv("C:/Users/ANSI/Desktop/practice/SYCS/sem 4/Data Analysis with SAS SPSS R/Effect of Teaching Method & Gender on Marks.csv")
> head(data2)
  Student Teaching_Method Gender Marks
1       1             A   Male   70
2       2             A   Male   72
3       3             A   Male   71
4       4             A   Male   73
5       5             A   Male   74
6       6             A Female   75
>
> anova_two <- aov(Marks ~ Teaching_Method + Gender, data = data2)
> summary(anova_two)
   Df Sum Sq Mean Sq F value    Pr(>F)
Teaching_Method  2 1126.7   563.3   244.11 < 2e-16 ***
Gender          1  187.5   187.5    81.25 1.76e-09 ***
Residuals       26   60.0     2.3
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
> |
```

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## 9 Conducting Chi-square tests using chisq.test() (R)

The screenshot shows the RStudio interface with the following R code:

```
1 data3 <- read.csv("C:/Users/ANSI/Desktop/practice/SYCS/sem 4/Data Analysis with SAS SPSS R/Relationship between Gender and Spice Tolerance.csv")
2 head(data3)
3
4 ID Gender Spice.Tolerance
5 1 Male Yes
6 2 Male Yes
7 3 Male Yes
8 4 Male Yes
9 5 Male Yes
10 6 Male Yes
>
> table_data <- table(data3$Gender, data3$Spice.Tolerance)
> chisq.test(table_data)

Pearson's Chi-squared test with Yates' continuity correction

data: table_data
X-squared = 0.13889, df = 1, p-value = 0.7094
```

The R console output shows the results of the Chi-square test:

```
Pearson's Chi-squared test with Yates' continuity correction

data: table_data
X-squared = 0.13889, df = 1, p-value = 0.7094
```

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